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Environmental Assessment of the El Paso Natural Gas Cathodic Protection Station No. 1585 in the Kofa Wildlife Refuge, La Paz County, Arizona

Prepared for

U.S. Fish and Wildlife Service

On behalf of

El Paso Corporation

Prepared by

SWCA Environmental Consultants

October 2010

ENVIRONMENTAL ASSESSMENT OF THE EL PASO NATURAL GAS CATHODIC PROTECTION STATION NO. 1585 IN THE KOFA WILDLIFE REFUGE, LA PAZ COUNTY, ARIZONA

Prepared for

U.S. Fish and Wildlife Service
Kofa National Wildlife Refuge
9300 East 28th Street
Yuma, Arizona 85365
Attn: Susanna Henry
(928) 783-7861

On behalf of

El Paso Corporation
2 North Nevada Avenue
Colorado Springs, Colorado 80903
Attn: Mike Essam

SWCA Environmental Consultants
325 West Franklin Street
Tucson, Arizona 85701
(520) 325-9194
www.swca.com

SWCA Project No. 16686

October 2010

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Chapter 1

PURPOSE AND NEED

1.0 INTRODUCTION

This document addresses all aspects of the installation, operation, and maintenance of a proposed El Paso Natural Gas Company (EPNG) Cathodic Protection Station (CPS) to be located in a new permanent right-of-way (ROW) adjacent to the existing natural gas pipeline ROW corridor at Milepost (MP) 708 + 1393. The proposed project area is located on the Kofa National Wildlife Refuge (Kofa NWR) in the SE¼, NE¼, Section 15, Township 2 North, Range 18 West, Gila and Salt River Meridian, La Paz County, Arizona (Figures 1 and 2).

Natural gas pipelines are subject to internal and external corrosion, which can result in loss of pressure integrity or pipeline failure. Thus, EPNG proposes to construct a new CPS (No. 1585) ancillary to EPNG's existing pipelines (Line Nos. 1100, 1103, and 1110) to help prevent and minimize corrosion on these three pipelines (corrosion can lead to pipeline failures or increased pipeline repair projects). The permanent ROW being requested for CPS No. 1585 is approximately 810 feet long by 30 feet wide, or 0.56 acres. This ROW is necessary to include 144 feet of connecting electrical cable installation (approximately 85 feet of cable lies within permanent ROW already established outside of the scope of this project), 700 feet of scrap steel pipe (the ground bed), and 50 feet of turnaround space (for maintenance and construction) at the end of the scrap steel ground bed, all within a 30-foot-wide space. The temporary construction workspace requested is a 35-foot-wide space on each side of the 30-foot-wide expanse of 700 feet of scrap pipe and 50 feet of turnaround space, or 1.2 acres (Figure 3).

1.1 BACKGROUND

EPNG transports natural gas to southern and central Arizona and portions of California with its Line Nos. 1100, 1103, 1110, and 1600. Constructed in 1947, Line 1100 is 26 inches in diameter and stretches 738.25 miles from Eunice, Texas, to Ehrenberg, Arizona, roughly paralleling Interstate 10. It was constructed to distribute natural gas from processing facilities in Texas to the SOCAL Pipeline distribution system of Southern California. It services Arizona towns along the way, including San Simon, Willcox, Benson, Vail, Tucson, Gila, Wenden, and Ehrenberg. EPNG Line 1100 originally opened the California market for natural gas and has been critically important for economic development in southern California, including the military industrial complex that was headquartered there in the 1950s and 1960s (Tucker 2001). The pipeline has been in continuous service since 1947, with periodic halts in service for maintenance and upgrades. Most of the pipes, valves, and compressors have been replaced or upgraded over the years. Line 1103 (26 inches in diameter) parallels Line 1100 for most of its length within Arizona, is located on average 20 feet north of Line 1100, and was built and became operational in the early 1950s. Line 1110 (26 inches in diameter), which parallels Lines 1100 and 1103, was built in the mid 1960s. Line 1600 (30 inches in diameter) is also located within the ROW corridor adjacent to the other three lines in portions of the ROW corridor, but not within the proposed CPS No. 1585 project area, and was built in the late 1960s.

Portions of EPNG Lines 1100, 1103, 1110, and 1600 are on U.S. Fish and Wildlife Service (USFWS)-administered lands within the Kofa NWR in Arizona. The Kofa Game Range (Range) was established in 1939 by Executive Order 8039 and administrative responsibilities were shared by the USFWS and the

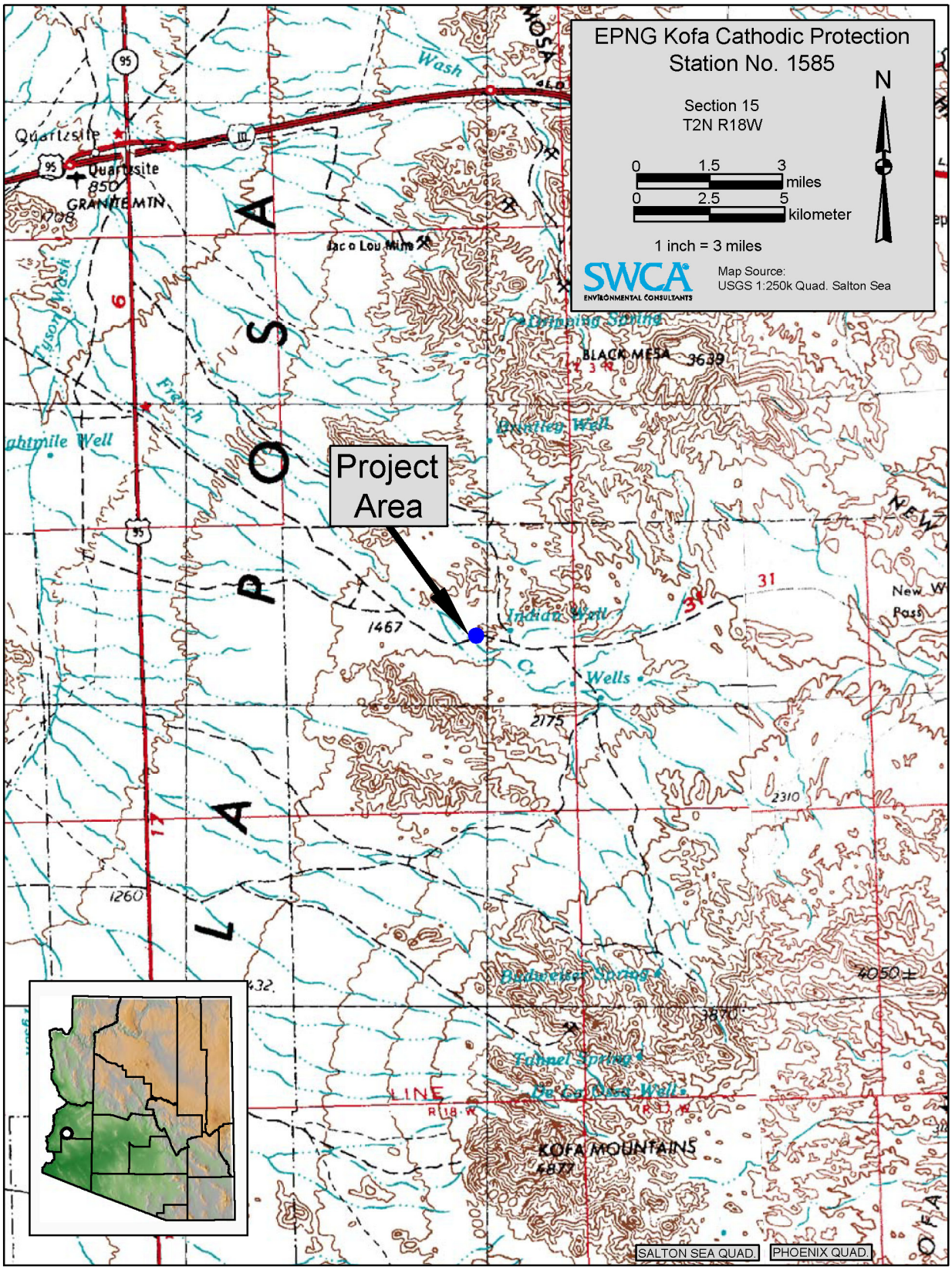

Figure 1. Project overview map.

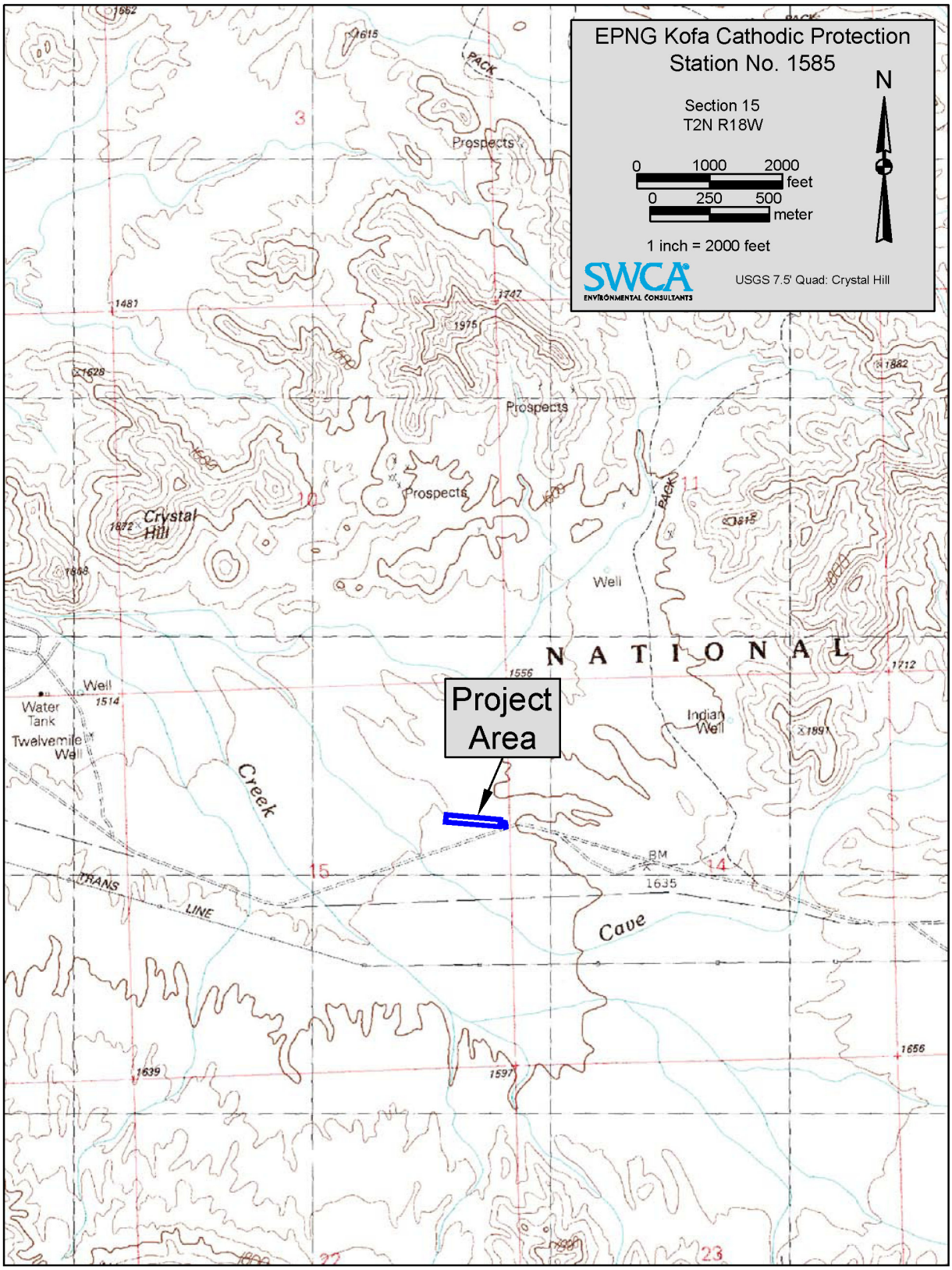

Figure 2. Project area.

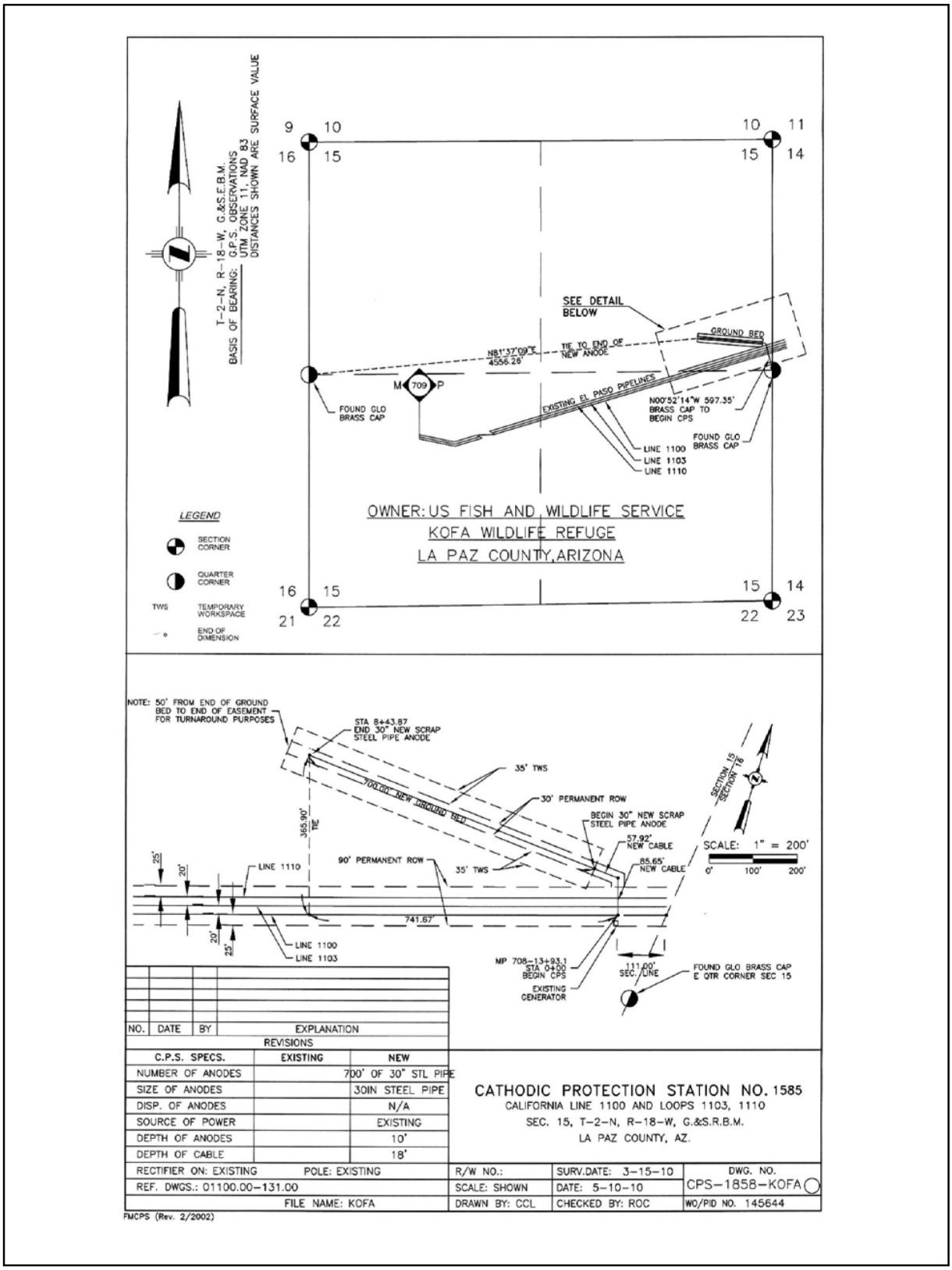

Figure 3. Cathodic Protection Station No. 1585.

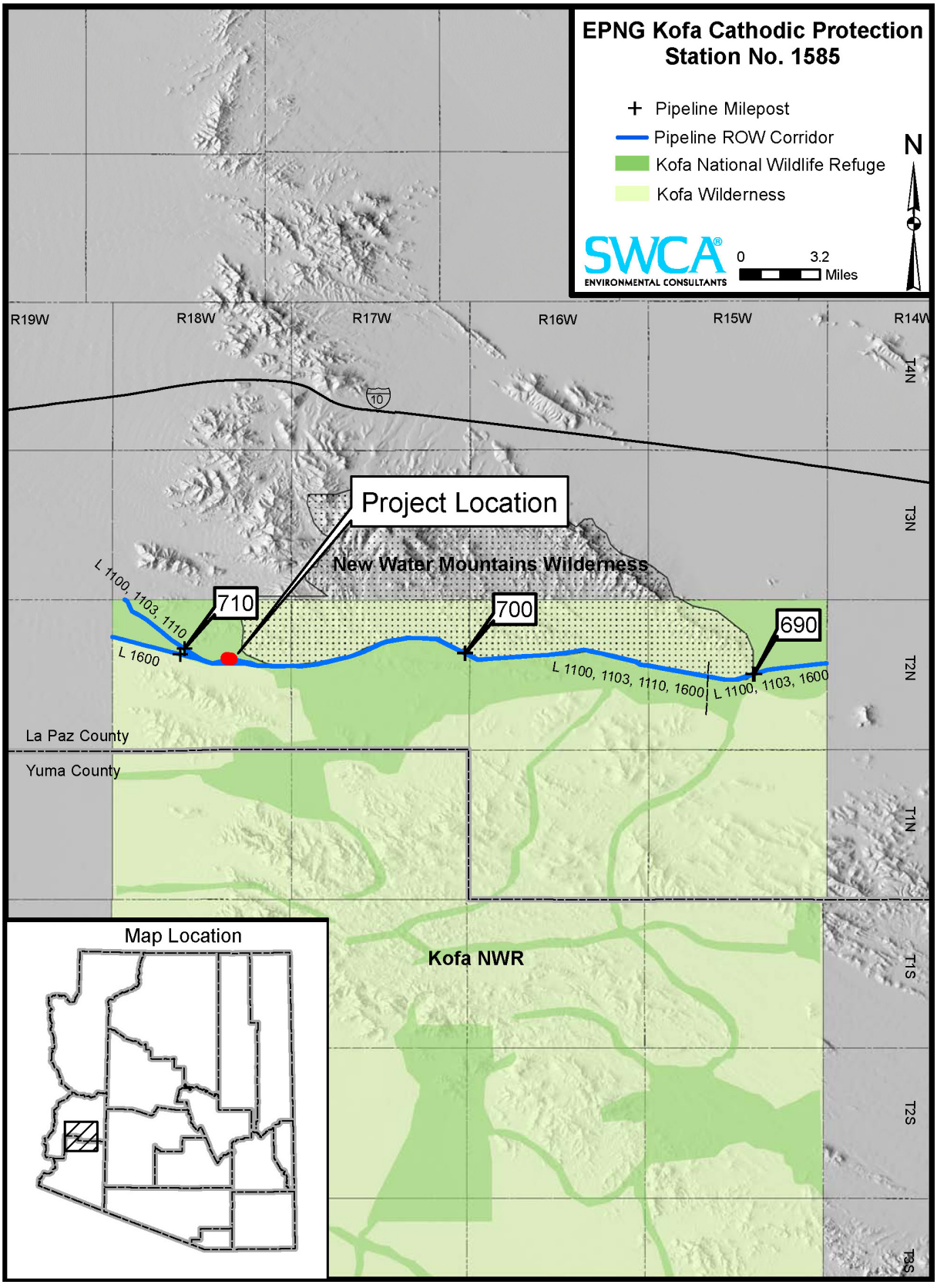

Figure 4. EPNG Lines 1100, 1103, 1110, and 1600 across the Kofa NWR.

U.S. Grazing Service until 1946, when the Bureau of Land Management (BLM) was established and began co-managing the Range with the USFWS (USFWS and BLM 1996). In 1976, the USFWS took over sole jurisdiction of management of the refuge with the passage of Public Law (PL) 94-223, commonly called the Game Range Act. After passage of the Arizona Desert Wilderness Act of 1990, parts of the Kofa NWR became designated wilderness. Within and adjacent to the Kofa NWR, the pipelines are all within former BLM-administered ROW granted between 1949 and 1970. As a result of the numerous easements (Table 1) and the varying number of pipelines in the corridor in any given location, the total width of EPNG's corridor ranges from as little as 50 feet for the 3.2-mile-long segment of EPNG Line 1600, where it departs from the main pipeline corridor in the western part of the Kofa NWR, to as much as 130 feet, where EPNG Lines 1100, 1103, 1110, and 1600 occupy a single corridor (Figure 4).

Table 1. EPNG Easements within Kofa National Wildlife Refuge

Easement	Location (Township, Range, Section)	Purpose	Date Issued
PHX 083225	T2N, R15W, Sec. 13–15, 17, 18, 20–22; T2N, R16W, Sec. 10, 13–18; T2N, R17W, Sec. 9–13, 16–18; T2N, R18W, Sec. 5, 6, 8, 9, 13–16	Pipeline ROW	3/1/1949
AR 03819	T2N, R15W, Sec. 17, 18, 20, 21; T2N, R16W, Sec. 10, 13–18; T2N, R17W, Sec. 9–13, 16–18; T2N, R18W, Sec. 5, 6, 8, 9, 13–16	Pipeline ROW	10/17/1952
PHX 086067	T2N, R15W, Sec. 13–15, 17, 18, 20–22	Pipeline ROW	4/28/1953
AR 05112	T2N, R15W, Sec. 17, 18, 20, 21; T2N, R16W, Sec. 10, 13–18	Pipeline ROW	9/11/1953
AR 012521	T2N, R17W, Sec. 9–13, 16–18; T2N, R18W, Sec. 5, 6, 8, 9, 13–16; T2N, R18W, Sec. 13, 14	Pipeline ROW	10/9/1956
AR 016499	T2N, R18W, Sec. 5, 6, 8, 9, 14–16	Pipeline ROW,including CPS #1585	7/16/1957
AR 017540	T2N, R16W, Sec. 18	CPS #305 Installation	1/28/1958
A 1269	T2N, R15W, Sec. 13–15, 21, 22	Pipeline ROW	2/6/1968
A 4339	T2N, R17W, Sec. 17, 18; T2N, R18W, Sec. 7, 8, 13–17	Pipeline ROW	4/9/1970
A 4171	T2N, R15W, Sec. 13	CPS (Retired)	5/1/1970 (Relinquished 1991)
A 4427	T2N, R15W, Sec. 17, 18, 20, 21; T2N, R16W, Sec. 10, 13–18; T2N, R17W, Sec. 9–13, 16–17	Pipeline ROW	5/23/1970
A 8776	T2N, R16W, Sec. 18	CPS #305 Updates	6/20/1974 (To Term 1999)

In general terms, buried steel pipelines are subject to corrosion due to the natural flow of static electricity (created by natural gas moving through the pipeline) away from the pipe to the surrounding earth/soil. Cathodic (corrosion) protection is achieved when the pipeline collects current rather than allowing the current to continue flowing away from the pipe. This "reversal" is accomplished by forcing an electrical current from an external source onto all surfaces of the pipeline which then becomes "cathodic" and thus protected from corrosion. This cathodic protection is achieved on EPNG's pipeline(s) as follows: 1) an electrical generator, currently at the site, generates AC power (alternating current) which is delivered to a rectifier and converted to DC power (direct current flowing in only one direction), 2) a negative cable from the rectifier is connected directly to the natural gas pipelines to be protected, 3) a separate positive cable from the rectifier is connected to the scrap pipe ground bed, 4) the soil completes the circuit, 5) the electrical current flow overpowers the corrosion current discharging from the pipeline, which 6) results in

a net current flow onto the steel pipe surface causing the natural gas pipeline to be protected and the scrap pipe located in the ground bed to corrode.

Corrosion protection is provided (depending on soil conductivity) for many miles of pipeline for a period of approximately 20–25 years, at which time the CPS must be replaced. Through years of experience, various means of testing have been developed to determine if pipeline protection is adequate, and EPNG has conducted various test points along the pipeline ROW to determine the degree and optimum location of cathodic protection needed. There are no alternative CPS locations identified because testing has shown that a ground bed in the proposed location is necessary to provide maximum corrosion protection over the longest distance on these pipelines.

1.2 PURPOSE AND NEED

The purpose of the proposed action is to grant an 810-foot-long × 30-foot-wide permanent ROW and two temporary 750-foot-long × 35-foot-wide construction workspace easements in order to construct a new CPS. The need for the permanent easement and temporary construction workspace is to support the installation of infrastructure necessary for CPS No. 1585, as described in EPNG's Plan of Development (POD) (see Appendix A), to provide corrosion protection for three existing high pressure natural gas pipelines in accordance with U. S. Department of Transportation (USDOT) regulations.

There are currently two active CPSs located on the Kofa, CPS Nos. 305 and 1585. For a CPS to properly protect El Paso's natural gas pipeline(s) from corrosion, the electrical voltage/current between all CPS sites installed on the pipeline(s) must be evenly distributed. Current electrical output (voltage/current) at the now depleted CPS No. 1585 (located within the existing pipeline ROW) does not meet USDOT requirements; therefore, given the soil conditions and distances between the other existing CPS sites (CPS No. 305 approximately 10 miles east of CPS No. 1585), the new CPS No. 1585 is required at the site shown on Figure 2. The spread of current is not adequate for the distance between CPS No. 305 and CPS No. 1585 from MP 699 to 713. The "pipe to soil" reading at MP 711 is 0.656 Mv, which does not meet USDOT standards; thus, the current output at CPS No. 1585 needs to be increased. The closest rectifier is at MP 717, ten miles to the west of the site, which is inadequate for EPNG's current needs.

The new facility will increase the electrical output as needed, and the replacement site was chosen because it provides the best long-term corrosion protection for EPNG's pipelines. This cathodic protection of EPNG Lines 1100, 1103, and 1110 is needed to minimize and prevent corrosion of the pipelines, which can cause pipeline safety issues, including the loss of pressure within the lines, increased maintenance visits, and potentially an interruption in service to the communities served by the pipelines. This CPS is needed to maintain safe, reliable, and cost-effective natural gas transportation to the communities served by the pipelines as well as to conform to the Pipeline Safety Improvement Act of 2006 and USDOT regulations.

1.3 LAWS, REGULATIONS, PERMITS, AND APPROVALS

As part of this environmental assessment (EA), the following laws and regulations were attended to:

- American Indian Religious Freedom Act (42 United States Code [USC] 1996)
- Archaeological Resources Protection Act (16 USC 470aa–mm)
- Clean Air Act (42 USC 7401 et seq.)
- Clean Water Act (33 USC 1251 et seq.)

- Comprehensive Environmental Response, Compensation, and Liability Act (42 USC 9601 et seq.) and the Superfund Amendments and Reauthorization Act (42 USC 11001 et seq.)
- Endangered Species Act (16 USC 1531–1542)
- Executive Order 11593, Protection and Enhancement of the Cultural Environment (1971)
- Executive Order 11988 on Floodplain Management (1977)
- Executive Order 12898 on Environmental Justice (1994)
- Farmland Protection Policy Act (PL 97-98)
- National Environmental Policy Act of 1969, as amended (42 USC 4321–4347)
- National Historic Preservation Act of 1966 (16 USC 470 et seq.)
- National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. § 668dd–668ee)
- National Wildlife Refuge System Improvement Act of 1997 (H.R. 1420, 105th Congress)
- Native American Graves Protection and Repatriation Act (25 USC 3001)
- Pipeline Improvement and Safety Act (49 USC Subtitle VIII Chapter 601; reauthorized under H.R. 3609 signed December 17, 2002)
- Resource Conservation and Recovery Act (42 USC 6901 et seq.)
- Safe Drinking Water Act (42 USC 300f et seq.)
- Southern Arizona Water Rights Settlement Act of 1982 (PL 97-293) and Southern Arizona Water Rights Technical Amendments Act of 1992 (PL 102-497) (collectively SAWRSA)

Chapter 2

ALTERNATIVES

The following chapter describes the two alternatives evaluated in this document: the Proposed Action and No Action alternatives. Included in the section on the Proposed Action alternative is a description of the CPS project, as well as typical pipeline operation and maintenance projects. Also included in this chapter is a discussion of the alternatives considered but eliminated from further consideration.

2.0 PROPOSED ACTION

EPNG is seeking temporary ROW workspace for the staging of equipment, supplies, and a spoil pile during the construction activity described below, as well as a permanent new ROW in which to locate the new CPS facilities. EPNG proposes to install, operate, and maintain a ground bed in the permanent ROW. The CPS consists of an electrical cable buried approximately 2 to 3 feet deep and a 30-inch-diameter scrap steel pipe buried approximately 10 feet underground. The electrical cable would originate at an electrical junction box connected to an existing generator located in the existing pipelines ROW. The cable would be connected to an aboveground rectifier that converts AC to DC at a very low voltage (1–100 volts and approximately 75 amps); however, the pipe-to-soil voltage is less than 1 volt (approximately 850 millivolts). A negatively charged electrical cable would be physically connected to the natural gas pipeline(s) to be protected and the positively charged cable would extend a distance of 145 feet where it would be attached to the approximately 700-foot-long, 30-inch-diameter scrap steel pipe. The "grounded" earth/soil in the surrounding area would complete the circuit and establish the cathodic connection that prevents corrosion from occurring to the pipeline. The cable trench would be approximately 2 feet in width, 145 feet in length, and 2 to 3 feet deep. The scrap steel pipe trench would be approximately 4 feet in width, 700 feet in length, and 10 feet deep. An additional 50 feet at the end of the pipe trench would be needed for equipment turnaround purposes. The permanent ROW would be 30 feet in width and approximately 810 feet in length (see Figure 3).

A 35-foot-wide temporary construction space would be required on either side of the 30-foot-wide, 750-foot-long portion of the permanent ROW that includes the ground bed and turnaround space. This temporary workspace is necessary to stockpile material excavated from the trench, and to provide a working area for trenching equipment. There would be three 8-inch-diameter steel pipe risers (vents) near ground level that are welded onto the scrap steel pipe. The risers are covered and provide a means for EPNG to inject water into the ground bed as needed to increase conductivity of the ground bed. Normally, annual watering would be adequate and would be conducted through the use of a water truck. If possible, EPNG would design the ground bed to allow gravity flow of water, such that all watering can be performed using the first accessible riser/vent, thereby eliminating the need for an access road to be constructed along the ground bed in the new permanent ROW. EPNG would ensure that all riser covers remain in place and all aboveground facilities would be painted a non-reflective tan color to blend in with the surrounding environment. As practical, all disturbed surfaces would be rehabilitated.

The CPS would serve to protect existing EPNG Line Nos. 1100, 1103, and 1110 granted by BLM ROW Decisions Phoenix 083225 dated March 1949, Arizona 03819 dated October 1952, and Arizona 016499 dated July 1957, respectively. This project can be accomplished under 18 Code of Federal Regulations (CFR) 2.55(a) of the Natural Gas Act and is exempt from requirements for a certificate of public convenience authorization by the Federal Energy Regulatory Commission (FERC). As necessary, the existing Special Use Permit and/or the existing, original BLM (pipeline granting) Decisions will be amended to include the new CPS facility. Existing facilities within the pipeline ROW consist of an access

road, gas engine/electrical generator, and electrical boxes. All CPS backfill material would consist of the material excavated for the project and no additional sand and gravel material would be required. Construction equipment would be temporarily stored on-site and within the pipeline and/or the new CPS ROWs.

EPNG proposes to begin construction in March 2011. The entire project would take approximately three months to complete, initial construction of the CPS facility taking approximately three to four weeks.

2.1 NO-ACTION ALTERNATIVE

Under the no-action alternative, the conditions outlined within the POD, including the additional temporary workspace, would not be authorized and CPS No. 1585 would not be built. Existing management and use of the area would continue, subject to applicable statutes, regulations, policy, and land use plans.

Selection of the no-action alternative would eventually result in potential hazards related to continuing deterioration and corrosion of the existing pipelines, including the potential interruption in or loss of natural gas delivery service, an increase in the frequency of maintenance visits and human presence in the project area, and increased cost and reduced reliability of natural gas service for the communities and businesses served by the lines.

2.2 ALTERNATIVES CONSIDERED BUT NOT ANALYZED

Through years of experience, various means of testing have been developed to determine if pipeline protection is adequate. EPNG conducted various such test points along the pipeline ROW corridor to determine the degree and optimum location of cathodic protection needed. There are no alternative locations identified since testing has shown that the location as described in this document is necessary to provide maximum corrosion protection covering the greatest distance along these pipelines segments. Thus, additional alternatives regarding ROW acquisition of other lands to build CPS No. 1585 in a different location have been eliminated from further analysis.

Chapter 3

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.0 GENERAL SETTING

The project area is located on the Kofa NWR at an elevation of approximately 1,600 feet above mean sea level (amsl). There are no ephemeral washes in the project area; however, there are two unnamed ephemeral washes located just outside the project area boundary to the north and west of the project area. The Livingston Hills are approximately 1.5 miles south of the project area. Within the eastern portion of the project area, there is an area that has been previously disturbed, measuring approximately 400 × 40 feet. In addition, there is also an approximately 100 × 15–foot previously disturbed area on the eastern end of the larger disturbed area that appears to have been used for access into the disturbed area. These areas have since become revegetated naturally by creosote bush (*Larrea tridentata* var. *tridentata*). The remaining portions of the project area consist of undisturbed native vegetation as well as areas of undisturbed desert pavement.

3.1 ENVIRONMENTAL RESOURCES

Numerous environmental resources were considered and presented below. Impacts of the proposed action and no-action alternative are analyzed following each resource discussion. The following environmental resources were eliminated from detailed consideration because they do not occur in the proposed action area or the proposed action would not affect them: Visual Resources, Mineral Resources, Rangeland Management, Wilderness Resources, Wild and Scenic Rivers, Riparian Area Management, and Wild and Free-Roaming Horse and Burro Management.

3.1.1 Air Quality

As directed by the Federal Clean Air Act, the U.S. Environmental Protection Agency (EPA) established National Ambient Air Quality Standards (NAAQS) for six "criteria" pollutants at Title 40, CFR, Part 50 (40 CFR Part 50). EPA adopted these standards to protect the public health (primary standards) and the public welfare (secondary standards). The six pollutants of concern are carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter with an aerodynamic diameter less than 10 microns (PM_{10}), sulfur dioxide (SO_2), and lead. States are required to adopt standards that are at least as stringent as the NAAQS. The State of Arizona has adopted ambient air quality standards that are identical to the NAAQS. The federal land evaluated herein, on which CPS No. 1585 would be located, lies within an attainment area for all eight State of Arizona criteria pollutants (carbon monoxide, nitrogen oxides, ozone [1-hour], ozone [8-hour], sulfur dioxide, particulate matter [PM] <2.5 micrometers, PM <10 micrometers, and lead) (EPA 2010).

Impacts of the Proposed Action

Minor temporary impacts to air quality may result from vehicle and construction equipment emissions and fugitive dust during construction activities. These are anticipated to be slight and to dissipate quickly following project construction. All vehicles and construction equipment would be properly maintained to

minimize exhaust emissions and would be properly muffled to minimize noise. Reduced vehicle speed and the use of water (via water trucks) can be used for dust control during construction.

The proposed action would comply with all federal and state statutes pertaining to air quality. Surface disturbance in the temporary workspace and along the access road will be minimized to prevent the addition of large quantities of dust into the air and to mitigate disturbance impacts.

Impacts of the No-Action Alternative

The no-action alternative would have no effect on air quality.

3.1.2 Cultural Resources

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as implemented at 36 CFR Part 800, requires Federal agencies to take into account the effects of their undertakings on historic properties (i.e., cultural resource sites that are eligible for listing in, or are listed in, the National Register of Historic Places [NRHP]). A database records search and a Class III (100 percent coverage, pedestrian) field survey by qualified archaeologists were undertaken to determine the presence of archaeological resources within the project area. No historic properties (prehistoric or historical) were found during the survey. The approval by the USFWS of EPNG's proposed CPS facility would result in a Section 106 finding of No Historic Properties Affected.

On October 1, 2010, the USFWS sought concurrence from the Arizona State Historic Preservation Office (SHPO) on the No Historic Properties Affected finding. Additionally, the USFWS initiated consultation with Native American tribes by requesting comment on the proposed undertaking and the results of the archaeological survey, and by requesting that they identify any traditional cultural properties that would potentially be affected by the undertaking. The USFWS consulted with the following tribes: Cocopah Tribe, Quechan Tribe, Colorado River Indian Tribes, Yavapai-Prescott Indian Tribe, and the Tohono O'odham Nation.

Impacts of the Proposed Action

The proposed action would have no significant effect on any known prehistoric or historic cultural resources. If previously undetected cultural resources are encountered during project construction, the USFWS Kofa NWR archaeologist would be notified immediately and project construction would be halted until the resource is assessed.

Impacts of the No-Action Alternative

The no-action alternative would have no effect on any known prehistoric or historic cultural resources.

3.1.3 Native American Religious Concerns

The American Indian Religious Freedom Act of 1978 established national policy to protect and preserve for Native Americans their inherent right of freedom to believe, express, and exercise their traditional religions, including the rights of access to religious sites, use and possession of sacred objects, and freedom to worship through traditional ceremonies and rites.

On the basis of recent Native American consultations conducted with local tribal governments, there are no known Native American religious concerns associated with the project area. Consultations with Tribal entities regarding the proposed action are in progress.

3.1.4 Environmental Justice

Title VI of the Civil Rights Act of 1964 and related statutes ensure that individuals are not excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal financial assistance on the basis of race, color, national origin, age, sex, and disability. Executive Order 12898 on Environmental Justice directs that programs, policies, and activities not have a disproportionately high and adverse human health and environmental effect on minority and low-income populations. La Paz County has minority and low-income populations; however, no concentrations of these groups are located near the project area.

Impacts of the Proposed Action

The issuance of new permanent ROW and temporary workspace to facilitate a natural gas transmission pipeline maintenance project (construction of CPS No. 1585) would allow EPNG to provide more reliable natural gas delivery service to residents in western Arizona. No structures or businesses would be altered as a result of the proposed action and no private properties would be affected. Therefore, the proposed action is not anticipated to have a disproportionately high and adverse effect on low-income or minority populations in the area.

Impacts of the No-Action Alternative

Under the no-action alternative, the pipeline could eventually degrade, resulting in an unacceptable level of risk to public safety, safety of adjacent facilities, and negative impacts to socioeconomic resources from increasing potential natural gas shortages and higher natural gas prices.

3.1.5 Land Ownership and Use

The project area is on public National Wildlife Refuge lands administered by the USFWS. According to USFWS and BLM (1996:29), the main management strategy for the NWR is to "protect natural resources and values of the planning area for the long-term, and to provide for public appreciation of the refuge as appropriate and compatible with the purposes for which it was established." This project would temporarily disturb approximately 1.76 acres of soil and vegetation directly adjacent to an area that has been previously disturbed by construction of the access road and the installation, operation, and maintenance of three natural gas pipelines within an existing ROW corridor.

3.1.6 Other Land Use Authorizations in the Project Vicinity

EPNG Lines 1100, 1103, and 1110 are located within the ROW corridor adjacent to the proposed site for CPS No. 1585. The BLM ROW Decisions for Lines 1100, 1103, and 1110 are Phoenix 083225 (dated March 1949), Arizona 03819 (dated October 1952), and Arizona 016499 (dated July 1957), respectively. The proposed action is in conformance with the BLM Yuma Field Office Resource Management Plan for utility ROWs.

Impacts of the Proposed Action

As the project is not expected to permanently damage natural resources or to restrict public access to the Kofa NWR, the proposed action is in compliance with the current management of the existing ROW across these public lands and would entail no other changes in land use or administration.

Impacts of the No-Action Alternative

The no-action alternative would have no effect on current land status, ownership, or use.

3.1.7 Invasive and Noxious Weeds

The Arizona Department of Agriculture (ADA) is responsible for enforcing Arizona's noxious weed regulations, which categorize noxious weeds into three groups: Regulated, Restricted, and Prohibited. According to the Arizona noxious weed regulations, regulated noxious weeds are exotic plant species that are "well established and generally distributed in Arizona;" restricted noxious weeds are those exotic plant species that "occur in Arizona in isolated infestations or very low populations;" and prohibited noxious weeds are those exotic plant species that "do not occur in Arizona."

The project area was surveyed for noxious weeds by a qualified biologist and no noxious weeds listed by the ADA were observed.

Impacts of the Proposed Action

Of primary concern is the potential for the introduction of noxious weeds to the project area. This could result from the importation of noxious weed seeds by equipment during construction. To minimize this potential, any equipment and vehicles that are brought in from outside the area would be power-washed, including vehicle undercarriages, to prevent the introduction and spread of noxious weeds and invasive species.

Impacts of the No-Action Alternative

Under the no-action alternative, the project area would remain free of noxious weeds, unless they were spread by natural or other means outside of USFWS control.

3.1.8 Native Vegetation Resources

The project area is located in the Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community. Vegetation in the project area is dominated by creosote bush. Other species observed in the area include burrobush (*Ambrosia dumosa*), foothill paloverde (*Parkinsonia microphylla*), desert ironwood (*Olneya tesota*), saguaro (*Carnegiea gigantea*), Wiggins' cholla (*Cylindropuntia echinocarpa*), spineflower (*Chorizanthe rigida*), white ratany (*Krameria parvifolia*), plantain (*Plantago* sp.), and brittlebush (*Encelia farinosa*).

The existing ROW has been disturbed by previous pipeline installation and maintenance activities. The project area is sparsely vegetated, although native vegetation occurs in most of the area. No agaves, aquatic habitats (including stock ponds), broadleaf deciduous riparian vegetation communities (i.e., communities containing willow, cottonwood, or ash, etc.), or potential bat roost sites (e.g., natural caves or mine features) occur in the project area.

Impacts of the Proposed Action

The proposed action would result in impacts to vegetation in a relatively small area adjacent to an existing pipeline ROW corridor. No blading would occur, and impacts would be limited to the crushing of grasses, forbs, and small shrubs by vehicles, equipment, and soil piles. Construction equipment will access the project area from existing roads, so no other impacts are anticipated. It is anticipated that crushed vegetation would recover relatively quickly following project completion and restoration efforts will include the use of a native species seed mix to help facilitate revegetation of the disturbed areas.

Impacts of the No-Action Alternative

Under the no-action alternative, no impacts to vegetation would occur.

3.1.9 Wildlife

The project area likely provides some habitat for a variety of common wildlife species characteristic of the Sonoran Desertscrub biotic community. Mammals likely present in the area include coyote (*Canis latrans*), black-tailed jackrabbit (*Lepus californicus*), desert cottontail rabbit (*Sylvilagus audubonii*), Merriam's kangaroo rat (*Dipodomys merriami*), round-tailed ground squirrel (*Spermophilus tereticaudus*), desert pocket mouse (*Perognathus penicillatus*), and Arizona pocket mouse (*Perognathus amplus*). Birds likely in the area include turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), Gambel's quail (*Callipepla gambelii*), white-winged dove (*Zenaida asiatica*), mourning dove (*Zenaida macroura*), greater roadrunner (*Geococcyx californianus*), lesser nighthawk (*Chordeiles acutipennis*), and common raven (*Corvus corax*). Reptiles in the area likely include zebra-tailed lizard (*Callisaurus draconoides*), desert spiny lizard (*Sceloporus magister*), western (or tiger) whiptail (*Cnemidophorus tigris*), and Western diamondback rattlesnake (*Crotalus atrox*).

The Kofa NWR was established in 1939 by Executive Order 8039, specifically to help in the recovery of desert bighorn sheep (*Ovis canadensis mexicana*) populations. Desert bighorn sheep is addressed in this section because of the potential significance of any action that takes place on the Kofa NWR on bighorn sheep populations. Bighorn sheep live in dry, desert mountain ranges and foothills, near rocky cliffs, in an environment that is almost waterless and relatively barren of vegetation. Rutting season is in the autumn and early winter, and births take place in the spring though mating can last from July to December. One or two lambs per ewe are born from late February to May. The Kofa NWR contains a majority of the largest contiguous habitat for desert bighorn sheep in southwestern Arizona and is a primary source of bighorn sheep for translocations to re-establish or supplement existing populations throughout the southwest (USFWS 2007). Desert bighorn sheep are fairly common in the Kofa NWR, although the sheep population has declined over the past 10 years (Arizona Game and Fish Department [AGFD] 2010).

The project area is located between the Livingston Hills and the New Water Mountains Wilderness, which are known to be occupied by desert bighorn sheep. Lambing grounds are located in the Livingston Hills and the New Water Mountains Wilderness (USFWS and BLM 1996). The Livingston Hills are approximately 1.5 miles southwest of the project area. Although the project area does not provide suitable habitat for desert bighorn sheep, it may be used as part of a migratory corridor.

Impacts of the Proposed Action

During construction, there will be disturbance to approximately 1.76 acres of vegetation and soils, and possible displacement of some small mammals, birds, and reptiles. The proposed action would have no adverse impacts on desert bighorn sheep or bighorn sheep populations, nor would it be expected to

contribute to the future listing of desert bighorn sheep as threatened or endangered because of the small area of impact, short duration of construction activities, and lack of suitable bighorn sheep habitat in the project area.

Impacts of the No-Action Alternative

Under the no-action alternative, wildlife use of the project area would not be affected.

3.1.10 Threatened and Endangered Species

The Endangered Species Act of 1973, as amended, establishes a national program for the conservation and protection of threatened and endangered species of plants and animals and the preservation of their habitats. Section 7 of the ESA requires federal agencies to consult with the USFWS to ensure that the actions they authorize do not jeopardize the continued existence of a federally listed threatened or endangered species.

An evaluation of federally listed threatened and endangered species (see biological evaluation, in case file) was completed and it was determined that the project would have no effect on any of the species listed by the USFWS as potentially occurring in La Paz County. The eight species that are either listed, proposed as threatened, or that are identified as candidates for listing by the USFWS in La Paz County are unlikely to occur in the project area. The project area also does not occur in or near any federally proposed or designated Critical Habitat.

According to the Arizona Heritage Geographic Information System (AZHGIS), there is an occurrence record for Sonoran desert tortoise within 2 miles of the project area (AZHGIS 2010). Although not currently on the La Paz County list, Sonoran desert tortoise, listed as a Wildlife Species of Concern by the AGFD, has the potential to occur in the project area. The USFWS published a 90-Day Finding responding to a petition to list Sonoran desert tortoise as a distinct population segment under the ESA and designate Critical Habitat. The final decision will be made in the USFWS's 12-month finding, due out in the next few months. This species is addressed here because it may receive statutory protection under the ESA in the future. Although no suitable denning habitat for desert tortoises (i.e., caliche-lined washes) and no tortoise sign or tortoises were observed in the project area during the site visit, individual tortoises could occur while migrating or foraging across the project area. Given the limited disturbance associated with the proposed project (0.56 acre of permanent impacts and 1.2 acres of temporary impacts over a three-month term), it is unlikely that the project would result in population-level impacts or contribute to the future listing of this species as threatened or endangered. In addition, impacts to the desert tortoise would be minimized by the proposed conservation measures (Appendix B), which include the use of a tortoise biologist as a monitor during construction.

It should also be noted that the USFWS is planning to establish an experimental population of Sonoran pronghorn (*Antilocapra americana sonoriensis*) under section 10(j) of the ESA in southwestern Arizona (nearby King Valley) according to a February 4, 2010, proposed rule (USFWS 2010). That re-established population would be classified as a nonessential experimental population; however, if any of these animals were to wander onto the project area, they would be treated as Endangered under full protection of the ESA. It is unknown at this point when this would occur and whether any of the animals would wander into the project area.

Impacts of the Proposed Action

The proposed action would have no effect on any of the eight USFWS species with the potential to occur in La Paz County as they are not expected to occur in the project area. The project area does not contain

the habitats known to support the species, or it is located outside of the geographic or elevational range of the species. Also, there would be no adverse modification of any proposed or designated Critical Habitat because none occurs in the project area. In addition, project-related impacts would not be expected to contribute to the future listing of Sonoran desert tortoise, or any other species, as threatened or endangered under the ESA.

Impacts of the No-Action Alternative

The no-action alternative would have no effect on USFWS-listed threatened or endangered species or any proposed or designated Critical Habitat.

3.1.11 Migratory Bird Treaty Act

Under the Migratory Bird Treaty Act of 1918 (MBTA) and subsequent amendments (16 USC 703–711), it is unlawful to take, kill, or possess migratory birds. Executive Order 13186, issued 11 January 2001, further defines the responsibilities of federal agencies to protect migratory birds; a list of those protected birds can be found in 50 CFR 10.13. The MBTA provides federal protection to all migratory birds, including their nests and eggs. In order to relocate or alter any MBTA-protected nests, it is necessary to obtain a permit from the USFWS. The authorization of the ROW and construction of the CPS No. 1585 would require that the Kofa NWR comply with the MBTA and avoid, to the extent possible, potential impacts to those bird species, and their nests, covered by the MBTA.

Investigations of the ROW determined that there are currently no potential migratory bird nests in the project area.

Impacts of the Proposed Action

The proposed action is not expected to have an effect on any migratory birds or their nests because no potential migratory bird nests were observed in the project area during field reconnaissance. In addition, it is anticipated that there would be no impacts to any individuals or adverse modification of nesting habitat for any migratory bird species.

Impacts of the No-Action Alternative

The no-action alternative would have no effect on bird species protected by the MBTA.

3.1.12 Recreation

The project area and vicinity, which are located along an unsecured segment of the Line 1100, 1103, and 1110 ROW corridor, are accessible to the general public for recreation purposes. It is possible that, from time to time, authorized and unauthorized off-road-vehicle users, hikers, or sightseers may use or cross the existing ROW grant to recreate on surrounding public lands.

Impacts of the Proposed Action

The proposed action is not expected to have significant impacts to recreational uses, authorized or unauthorized, because construction activities are short term and limited to a small area. Long term operational activities are also not expected to have significant impacts to recreational uses because the facilities are located underground and once mitigated by restoration activities, would likely not be perceptible to the general public.

Impacts of the No-Action Alternative

Under the no-action alternative, there would be no change in recreational use of the area.

3.1.13 Soil Resources

This section references Hendricks (1985): Soils in the project area are Hyperthermic Arid soils located in the transition zone between the Lithic Camborthids-Rock Outcrop-Lithic Haplargids and Harqua-Perryville-Gunsight associations. Hyperthermic Arid soils cover about 27% of Arizona and are found primarily at the lower elevations of western and southwestern Arizona. The Lithic Camborthids-Rock Outcrop-Lithic Haplargids Association covers about 10.5% of Arizona and the Harqua-Perryville-Gunsight Association covers about 1.3% of Arizona. These well-drained soils have low potential for forage production as a result of low rainfall. The Lithic Camborthids-Rock Outcrop-Lithic Haplargids Association is characterized as shallow, very gravelly and cobbly, moderately coarse to moderately fine-textured, gently sloping to very steep soils and rock outcrops on hills and mountains. The Harqua-Perryville-Gunsight Association is characterized as deep, gravelly, moderately fine-textured, and gravelly, limy, medium-textured, nearly level to moderately sloping soils on old fan surfaces. Soils in the project area are susceptible to impacts from compaction, disturbance, and invasion by non-native plant species.

Impacts of the Proposed Action

Clearing vegetation and the use of heavy equipment can cause compaction, thereby impacting the soils' ability to absorb water. The majority of the construction, including drilling and trenching, would take place in the new permanent ROW. In the temporary workspace, impacts would include compaction from the staging of equipment and the temporary storage of soil piles. Soil disturbances resulting from actions within the permanent and temporary ROW would total approximately 1.76 acres. No construction or routine maintenance activities would be performed during periods when the soil is too wet to adequately support construction equipment. No blading would be conducted during construction in the temporary workspace, further reducing soil disturbances. Soils would be restored to preconstruction contours and elevations and erosion control measures would be implemented, including revegetation with a native species seed mix. Soil impacts are therefore anticipated to be insignificant.

Impacts of the No-Action Alternative

The no-action alternative would have no effect on soil resources.

3.1.14 Water Resources

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (community-panel number 04012C 1600C) for the area, the project area is not located within a 100-year floodplain; it is located in Zone D, an area of undetermined risk (FEMA 2010). Thus, there is no flood risk associated with this area. There are ephemeral washes that cross the pipeline ROW and access road in the vicinity of the CPS No. 1585; however, they do not cross the proposed action area. The proposed action would not intercept surface water or groundwater or affect water availability.

According to the Arizona Department of Environmental Quality (ADEQ) website, the project area is located within the Colorado–Lower Gila Watershed (ADEQ 2010). In terms of water quality, changes in overland flow and recharge caused by clearing and grading in construction areas are the primary concerns. Impacts from land clearing and excavating activities, as well as off-road-vehicle use, can

increase sedimentation and turbidity as a result of actions associated with utility corridors and ROWs. Clearing and excavating can result in localized soil erosion.

Impacts of the Proposed Action

Construction associated with the proposed action would not entail interception of surface waters or groundwater and would not increase sedimentation and turbidity in the Colorado River because the project area is located approximately 25 miles east of the river. In addition, appropriate best management practices would be implemented to ensure that any precipitation that contacts disturbed soils would be contained on site. The proposed action is anticipated to have no effect on water resources.

Impacts of the No-Action Alternative

The no-action alternative would have no effect on water quality.

3.2 CUMULATIVE IMPACTS

A Cumulative Impact, as defined by the Council on Environmental Quality (40 CFR 1508.7), is the impact on the environment that results from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts are interdisciplinary and multi-jurisdictional, and usually do not conform to political boundaries. To determine the cumulative effects, past, present, and future actions were evaluated within the same geographic extent as the proposed action. The proposed action exists within a designated utility ROW corridor containing three existing buried EPNG lines (Line Nos. 1100, 1103, and 1110). As the new CPS site is necessary in addition to the existing sites, all other existing CPS sites on the Kofa NWR will remain in place. Overall, the cumulative impacts related to the construction of CPS No. 1585 are expected to be minor. EPNG proposes to schedule operational and maintenance activities (annual watering of the site, general maintenance, etc.) at CPS No. 1585 at the same time as operational and maintenance activities at the previously-existing CPS sites on the Kofa NWR. In this way, the impacts from operating and maintaining CPS No. 1585 are expected to be minimized.

3.2.1 Projects Evaluated for Cumulative Analysis

Past

- EPNG pipelines buried within ROW (construction activities)
- EPNG access road (construction activities)
- Other EPNG CPS sites (construction activities)

Present

- EPNG pipelines buried within ROW (operational and maintenance activities)
- EPNG access road (operational and maintenance activities)
- Other EPNG CPS sites (operational and maintenance activities)

Reasonably Foreseeable

- EPNG pipelines buried within ROW (operational and maintenance activities)

- Because the proposed action is located adjacent to a utility ROW corridor, future linear facilities and other utility facilities could reasonably be located within the ROW corridor. These projects would be subject to applicable rules, regulations, and policies, including the National Environmental Policy Act process.
- Other EPNG CPS sites (operational and maintenance activities)

3.2.2 Cumulative Impacts of the Proposed Action

Three linear facilities (Line Nos. 1100, 1103, and 1110) are located within, or adjacent to, the utility ROW corridor adjacent to the proposed CPS No. 1585; therefore, construction, maintenance, and operational activities for past, present, and future facilities would occur in the same geographic area. The proposed action, however, would not impact environmental features as discussed in this document, with the exception of temporary or minor impacts to soil, wildlife, and vegetation resources.

3.2.3 Cumulative Construction-Related Impacts

Construction activities within the utility ROW corridor could impact soil, vegetation, and wildlife, which could be cumulative if construction activities were to occur concurrently and in the same general location. However, no construction activities are scheduled to occur within the general time frame of the proposed action, and future construction in the corridor would not be expected to occur at the same location as the proposed site for CPS No. 1585; therefore, the proposed action should not inhibit vegetation recovery or wildlife resettlement. Biological resources that may be impacted do not have any special status and should recover quickly in impacted areas. In addition, replacement or repair work on Lines 1100, 1103, and 1110 adjacent to the proposed site for CPS No. 1585 would likely consist of only minor, temporary impacts. Because multiple, concurrent construction projects within the utility ROW corridor are not anticipated and impacts from the proposed action would be minor and temporary, no cumulative construction impacts are anticipated.

3.2.4 Cumulative Operational Related Impacts

Three linear facilities (Lines 1100, 1103, and 1110) are located within the ROW corridor in the CPS No. 1585 project area; all require periodic maintenance and operational visits. In addition, CPS 305 is located on the Kofa approximately 10 miles east of CPS No. 1585 and was last replaced in 1988. The disturbance of wildlife activities from noise from vehicles, operational activities, and general human presence during inspection visits, and maintenance and operational activities could result in cumulative impacts to general wildlife in the immediate vicinity of CPS No. 1585. These impacts would be minor and short-term, and insignificant in intensity.

3.2.5 Cumulative Impacts of the No-Action Alternative

If CPS No. 1585 were not built, the linear facilities would still be present. If the existing EPNG pipelines did not receive cathodic protection, the pipelines could eventually degrade, resulting in an unacceptable level of risk to public safety, safety of adjacent facilities, and negative impacts to socioeconomic resources from increasing potential natural gas shortages and higher natural gas prices. Degradation of the lines would also result in additional future visits and thus greater human presence within the ROW corridor, which could result in disturbance to vegetation and wildlife. Because of the linear facilities within the corridor, human presence and noise during operational and maintenance activities could pose cumulative impacts to wildlife in the immediate vicinity of the corridor. If the CPS construction were not

completed, maintenance visits would likely be more frequent, thereby creating greater impacts to general wildlife near the ROW corridor.

3.2.6 Description of Mitigation Measures

Proposed Action

1. All vehicles and construction equipment will be properly maintained to minimize exhaust emissions and will be properly muffled to minimize noise.
2. Any equipment or materials transported onto USFWS lands for maintenance or repair will be promptly removed upon completion of the project.
3. Project construction will not entail impacts to vegetation components of potential habitat for any ESA-listed species.
4. Any vehicles that are brought in from outside of the area will be power-washed, including the undercarriage, before they are brought to the project site, to prevent the introduction and spread of noxious weeds and/or invasive species.
5. Should cultural and/or paleontological resources be encountered during project ground-disturbing activities, work will cease in the area of discovery and the USFWS will be notified immediately. Work may not resume until written authorization to proceed is issued by the USFWS.
6. EPNG shall construct, operate, and maintain facilities, improvements, and structures for this project in strict conformity with the POD (see Appendix A). Any relocation, additional construction, or use that is not in accordance with the POD and subsequently approved ROW grant shall not be initiated without prior written approval of the USFWS Authorized Officer. A copy of the complete ROW grant, including the POD, and all stipulations, shall be made available on the ROW during construction, operation, and termination of the facility.
7. Access to the construction site will be via an existing road in the ROW corridor.
8. EPNG will conduct the required biological, wetland, plant, and cultural resources surveys and will prepare an Environmental Assessment/Finding of No Significant Impact (EA/FONSI) for USFWS review. EPNG will abide by all conservation measures and requirements as set forth by the USFWS.
9. EPNG shall inform the authorized officer within 48 hours of any accident(s) on public lands that shall require reporting to the USDOT as required by 49 CFR Part 195. All waste and/or spills caused by construction activities will be removed and disposed of in an approved manner.
10. EPNG shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the Holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et seq.) with regard to any toxic substances that are used, generated by or stored on the ROW or on facilities authorized under this ROW grant (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyl's, 40 CFR 761.1-761.193.). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release of spill of any toxic substances shall be furnished to the USFWS Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

11. EPNG will comply with all applicable federal and state laws and regulations concerning the use of pesticides. Any use of pesticides shall be approved in advance by the authorized USFWS officer.
12. EPNG construction crews will adhere to all applicable OSHA standards, including the use of personal protective equipment (PPE) and operating equipment. A daily tailgate meeting discussing the scope of the job is held before any construction is commenced to discuss aspects of the project and review any mitigation and safety concerns about the project.

For a full list of conservation measures proposed by EPNG, refer to Appendix C.

No Action

No mitigation measures have been identified for the no-action alternative.

3.2.7 Compliance and Area Monitoring

The ROW grant holder shall notify the USFWS prior to commencing emergency maintenance outside the ROW grant area in the immediate vicinity of CPS No. 1585.

3.3 RESIDUAL IMPACTS

3.3.1 Residual Impacts of the Proposed Action

Beneficial impacts of the proposed action consist of the reduced likelihood that the natural gas pipelines would fail, and a long-term reduction in EPNG maintenance crew visits to the pipelines in the project area.

3.3.2 Residual Impacts of the No-Action Alternative

Residual impacts from this alternative would be the increased potential for deterioration of the pipelines, leading to an increased presence of maintenance crews and pipeline repair activities in the ROW corridor.

Chapter 4

CONSULTATION AND COORDINATION

4.0 PERSONS AND AGENCIES CONSULTED

U.S. Fish and Wildlife Service

Susanna Henry, Kofa National Wildlife Refuge Manager

EPNG (Applicant)

Terry Woodruff, Negotiator, Right-of-Way Principal

Richard Crane, Lands Use

Michael Essam, Environmental Scientist

Preparers (Third-Party Contractor)

SWCA Environmental Consultants

Jerome Hesse, Project Manager and Archaeologist

Geoff Soroka, Biologist and Environmental Planner

Russell Waldron, Project Planner

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Chapter 5

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APPENDIX A

Plan of Development

PLAN OF DEVELOPMENT

El Paso Natural Gas Company
Cathodic Protection Station (CPS) No. 1585
Kofa National Wildlife Refuge – U.S. Fish and Wildlife Service
June, 2010

1. Purpose and Need

El Paso Natural Gas (EPNG) proposes to construct a new Cathodic Protection Station ("CPS"), designated as CPS No. 1585, ancillary to EPNG's existing pipelines (Nos.) 1100, 1103 and 1110. See maps and construction diagram in Appendices A and B. The right of way ("ROW") being requested consists of (a) approximately 700' (long) and 30' (wide) permanent ROW for the new ground bed, (b) a temporary construction ROW 750' (long) and 35' (wide) on either side of the permanent ROW (total permanent and temporary construction workspace width is 100') and (c) a 30' wide and 144' long permanent ROW for the cable installation. See enclosed drawing number CPS-1585-KOFA depicting the above ROW lengths/widths. The purpose of this project is to provide corrosion protection for El Paso's high pressure natural gas pipelines in accordance with U. S. Department of Transportation regulations.

Basic Cathodic Protection Function and Description

- In general terms, buried steel pipelines are subject to corrosion due to the natural flow of static electricity (created by natural gas moving through the pipeline) away from the pipe to the surrounding earth/soil.
- Cathodic (corrosion) protection is achieved when the pipeline collects current (rather than current flowing away from the pipe). This "reversal" is accomplished by forcing an electrical current (from an external source) onto all surfaces of the pipeline. The pipeline is then "cathodic" and protected from corrosion.
- This cathodic protection is achieved on El Paso's pipeline(s) as follows: (a) an electrical generator, currently installed at the site, generates AC power (alternating current) which is delivered to a rectifier and converted to DC power (direct current flowing in only one direction), (b) a negative (-) cable from the rectifier is connected (spot welded) directly to the natural gas pipelines to be protected, (c) a separate positive (+) cable from the rectifier is connected to the scrap pipe ground bed, (d) the soil (earth) completes the circuit, (e) the electrical current flow overpowers the corrosion current discharging from the pipeline and (f) results in a net current flow onto the steel pipe surface causing the natural gas pipeline to be protected and the scrap pipe to corrode.
- Corrosion protection is provided (depending on soil conductivity) for many miles of pipeline for a period of approximately 20-25 years at which time the CPS must be replaced.
- Through years of experience, various means of testing have been developed to determine if pipeline protection is adequate and El Paso has various test points located along the pipeline right-of-way to determine the degree and optimum location of cathodic protection needed.
- There are no alternative locations identified since testing has shown this location is needed to provide maximum corrosion protection covering the most distance on the pipeline.

2. Right-of-Way Location

The proposed ROW is located entirely on public lands, as described below, in the Kofa National Wildlife Refuge administered by the U.S. Fish and Wildlife Service:

Gila and Salt River Meridian, La Paz County, Arizona
T. 2 N., R. 18 W.
Sec. 15, SE¼NE¼

The permanent and temporary ROWs being requested for the proposal consist of the following:
Permanent/Perpetual: 850' (700' + 144' rounded) x 30' = .59 acres
Temporary: 750' x 70' = 1.20 acres for a 3 months term (dates to be determined)

Project map, construction diagram and CPS drawing are attached in the Appendices.

3. Facility Design Factors

The CPS consists of an electrical cable which is buried approximately 2'-3' deep and a 30" diameter scrap steel pipe buried approximately 10' deep in the ground. The cable begins at an electrical junction box connected to an existing generator. The cable is connected to an above ground rectifier that converts alternating current (AC) to direct current (DC) at a very low voltage (1-100 volts and approximately 75 amps); however, the pipe to soil voltage is less than 1 volt (approximately 850 millivolts). A negatively (-) charged electrical cable is physically connected to the natural gas pipeline to be protected and the positively (+) charged cable will extend a distance of 145' where it is attached to the approximately 700' long, 30" diameter scrap steel pipe. The "grounded" earth/soil in the surrounding area completes the circuit and establishes the cathodic connection that prevents corrosion from occurring. The cable trench is approximately 2' wide, 145' long and 2'-3' deep. The scrap steel pipe trench is approximately 4' wide, 10 feet deep and 700' long. An additional 50' at the end of the pipe trench is temporarily used for equipment turnaround purposes. The permanent ROW would be 30' wide and approximately 850' long.

A 70' temporary construction ROW is required (being 35' on either side of the permanent 700' long, 30' wide ground bed ROW) to stockpile material excavated from the trench and to provide a working area for trenching equipment. Additionally, an additional 50' at the end of the pipe trench will be temporarily used for equipment turnaround purposes. There will be three 8" diameter steel pipe risers (vents) near ground level that are welded onto the scrap steel pipe. The risers are covered and provide a means for EPNG to inject water into the ground bed as needed to increase conductivity of the ground bed. Normally, annual watering is adequate. As possible, El Paso will design the ground bed to allow gravity flow of water such that all watering can be performed using the first accessible riser/vent, thereby eliminating the need for an access road along the ground bed right of way. EPNG will insure riser covers remain in place and all above ground facilities will be painted a non-reflective tan to blend in with the surrounding environment. As practical, all disturbed surfaces will be rehabilitated.

4. Additional Components at the Site

The CPS will serve existing EPNG pipeline Nos. 1100, 1103 and 1110 granted by BLM ROW Decisions Phoenix 083225 dated March 1949, Arizona 03819 dated October 1952 and Arizona 016499 dated July 1957, respectively. A single (decision) page reference is enclosed. Existing facilities within the pipeline ROW consist of (as necessary) an access road, gas engine/electrical generator, and electrical boxes. All CPS backfill material will consist of the material excavated for the project and no additional sand and gravel material will be required. Construction equipment will be temporarily stored on-site and within the pipeline and/or the new CPS ROWs.

5. Government Agency Involvement

a. Only public lands managed by USFWS will be affected by this project. There is no State or private lands involved.

b. This project can be accomplished under 18 CFR 2.55(a) of the Natural Gas Act and is exempt from requirements for a certificate of public convenience authorization by the Federal Energy Regulatory Commission (FERC). As necessary, the existing Special Use Permit and/or the existing, original BLM (pipeline granting) Decisions will be amended to include the new Cathodic Protection Station facility.

c. The U. S. Department of Transportation is responsible for assuring safety regulation compliance of interstate gas pipelines.

d. Access to the construction site will be via an existing road at the site.

e. El Paso will conduct the required biological, wetland, plant and cultural resources surveys and will prepare an Environmental Assessment/Finding of No Significant Impact (EA/FONSI) to the USFWS for review. EPNG will abide by all conservation measures and requirements as set forth by the USFWS.

f. EPNG shall inform the authorized officer within 48 hours of any accident(s) on public lands that shall require reporting to the Department of Transportation as required by 49 CFR Part 195. See Appendix D for Waste and Spill Management Specifications. All waste and/or spills caused by construction activities will be removed and disposed of in an approved manner.

g. EPNG shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the Holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et seq.) with regard to any toxic substances that are used, generated by or stored on the ROW or on facilities authorized under this ROW grant (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyl's, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release of spill of any toxic

substances shall be furnished to the USFWS Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

h. EPNG will comply with all applicable federal and state laws and regulations concerning the use of pesticides. Any use of pesticides shall be approved in advance by the authorized USFWS officer.

i. EPNG construction crews will adhere to all applicable OSHA standards, including the use of personal protective equipment (PPE) and operating equipment. A daily tailgate meeting discussing the scope of the job is held before any construction is commenced to discuss aspects of the project and review any mitigation and safety concerns about the project.

6. Construction of the Facilities

Construction is expected to take place during 2010. Duration of construction activity is expected to be approximately four weeks from start to finish.

Access to the location is from Highway 95 using the existing pipeline access road(s) to the site and all equipment and vehicles transiting the site will be confined to existing roads.

EPNG shall construct, operate and maintain facilities, improvements and structures for this project in strict conformity with this Plan of Development (POD). Any relocation, additional construction, or use that is not in accordance with the POD and subsequently approved ROW grant shall not be initiated without prior written approval of the USFWS Authorized Officer. A copy of the complete ROW grant, including the POD, and all stipulations shall be made available on the ROW during construction, operation and termination of the facility. Non-compliance with the above will be grounds for an immediate temporary suspension of activities if it constitutes a threat to public health and safety or the environment.

EPNG shall designate a representative who shall have the authority to act upon and to implement instructions from the USFWS Authorized Officer. An EPNG representative shall be available for communication with the Authorized Officer within a reasonable time when construction or other surface disturbing activities are underway.

The construction sequence is as follows:

a. Staking and flagging – Survey crews will stake and flag the ROW limits including the permanent ROW centerline and temporary ROW and electrical cable beginning location, and pipe beginning and ending locations. Equipment and personnel for this phase is expected to consist of one 4x4 pickup type truck and 2 personnel.

b. Third Party Notification – As necessary, EPNG will notify the grazing permittee approximately 7 days prior to construction. El Paso will make the required Arizona Blue Stake call.

c. Worker Education – EPNG will provide an environmental contractor to conduct environmental education training to all workers prior to construction. Training will include identification of cultural resources, safety requirements, tortoise handling procedures, and

other wildlife concerns. Additionally, all persons working on the project are briefed on specific safety measures to be observed during construction. Safety is a core value of El Paso and its contractors.

d. Signage
"Equipment Caution" signs will be placed on the pipeline access road ½ mile on either side of the pipeline. No road closures are anticipated, however, minor delays may be experienced during cable trenching and the movement of equipment and supplies.

e. Materials and Equipment Transport
Equipment consisting of one track-hoe, a large truck transporting approximately 17 sections of 40' long, 30" diameter steel pipe, a water truck and various pick-up type trucks will stay on site during construction of the CPS. A rubber tire back-hoe may be required during construction, but this will be determined on an as needed basis. Storage of equipment and pipe sections will be within the CPS and/or pipeline ROWs. A crew of 4-8 will also be on site. The track-hoe and 40' sections of scrap steel pipe will be transported to the site using two lowboys and a flatbed truck.

EPNG will assure all construction related equipment and vehicles are confined to using existing roads. No construction or routine maintenance activities shall be performed when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of 4 inches deep, the soil shall be deem too wet and activities will cease.

f. Clearing and Grubbing
All vegetation, along with 5" of topsoil, will be removed by a track-hoe and stockpiled, no more than 4' high, separately from trench excavations. A rubber tire back-hoe may also be required. Equipment and personnel for this phase is expected to consist of two 4x4 pickup trucks, the track-hoe and/or back-hoe and a crew of 4-6 people.

g. Pipe Welding
40' sections of pipe will be laid out along the length of the anode bed. One or possibly two welding trucks, 2 or 4 welders, with the assistance of other employees, will weld the sections of pipe together and attach the 8" diameter risers to create a 700' long section of pipe. Caps are welded onto each end of the steel pipe and the electric cable is securely welded to the scrap pipe. Risers/vents and 1' on each side of risers and the ends of the steel pipe are coated with a 6" gray tapecoat. A continuous strip of 6" tapecoat is attached to the steel pipe. Equipment and personnel for this phase is expected to consist of two 4x4 pickup trucks and a crew of 4-10 people.

h. Trenching
A trench approximately 2' wide and 2-3' deep will be excavated using a track-hoe for burial of the electric cable. At the end of the cable trench, a larger (pipe) trench will be excavated approximately 4' wide and 10' deep using a track-hoe. Rock that may be encountered will be broken up using a jack hammer attachment to the track-hoe. Spoils will be stockpiled separately from the topsoil and stockpiled at the site. Trenches will be checked at the

beginning of each day and periodically during the day for any wildlife that may have fallen in. If trenches will be left open overnight, caution tape will be used around the trench and an escape ramp will be provided for wildlife at each end of the trench. Equipment and personnel for this phase is expected to consist of two 4x4 pickup trucks, a track-hoe and a crew of 4-6 people.

i. Installation of Cable
The electrical cable will be placed in the cable trench, backfilled using stockpiled material and compacted. Equipment and personnel for this phase is expected to consist of a track-hoe, water truck, two 4x4 pickup trucks and a crew of 4-6 people.

j. Installation of Pipe
The pipe will be pushed into the trench by the track-hoe and covered with spoils removed from the trench and the top soil horizon, stockpiled separately, will be spread evenly on top of the disturbed area to promote natural seeding. Equipment and personnel for this phase is expected to consist of a track-hoe, water truck, two 4x4 pickup trucks and a crew of 4-6 people.

k. Cleanup and Restoration
EPNG will maintain the construction site in a sanitary condition at all times. Waste materials at the site shall be disposed of promptly at an appropriate waste disposal facility. See the Waste and Spill Management Plan.

Upon completion of construction activities all caution signs will be removed. Trash in the general area of the project will be cleaned up. All above-ground facilities on the new CPS will be painted a non-reflective tan to blend in with the surrounding environment. Equipment and personnel for this phase is expected to consist of two 4x4 pickup trucks and a crew of 4-6 people.

El Paso will reclaim the right of way by following the guidelines in its restoration/revegetation plan for the Kofa NWR and using a seed mix approved by the USFWS.

7. **Resource Values and Environmental Concerns**.

a. Cultural Resources
In the event sub-surface cultural resource discoveries are made during any ground disturbing activities, construction activities will cease in the area of discovery and EPNG and the USFWS will be contacted immediately. Arrangements will then be made for a professional archaeologist to visit the site of discovery and assess the potential significance of any artifacts or features that were unearthed pursuant to 36 CFR 800.13.

If any fossils are discovered during construction, the operator shall cease construction immediately and notify the USFWS Authorized Officer to determine the significance of discovery.

b. Biological Resources – El Paso will abide by all USFWS established conservation measures and requirements.

c. Air Quality
Impacts to air quality during construction are expected to be minimal and of short duration. A water truck will be used for dust control.

d. Visual
All above ground facilities will be painted a non-reflective tan to blend in with the surrounding environment.

e. Recreation
A brief closure of the access road is expected during cable trenching operations. Caution signs will be used to warn recreationists of construction activities. Minor delays may be expected during equipment and supplies movement.

8. **Stabilization and Rehabilitation**
After completion of backfilling with excavated material, the trench will be compacted. The disturbed area will be recontoured to preconstruction conditions. Any drainage encountered during construction will be cleared of soil and debris and back sloped as near as possible to their original condition. The topsoil will be spread evenly over the disturbed surface leaving approximately a 12' wide travel way along the ROW.

9. **Operation and Maintenance**
Maintenance consists of a water truck delivering water for ejection into the risers on an annual basis. Pipeline facilities are patrolled regularly by both aircraft and land based personnel. It is expected this CPS will be continually renewed and the cable and scrap pipe will be replaced every 20-25 years.

10. **Termination and Restoration**
Prior to abandonment of the facilities, EPNG will submit a Plan of Abandonment to the USFWS Authorized Officer for approval.

APPENDICES

A Project Map(s)

B Construction Diagram

C El Paso Natural Gas Conservation Measures for Operation and Maintenance Activities on the Kofa National Wildlife Refuge, La Paz County, Arizona

D Waste and Spill Management Specifications

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APPENDIX B

Handling Guidelines for Desert Tortoises

GUIDELINES FOR HANDLING SONORAN DESERT TORTOISES ENCOUNTERED ON DEVELOPMENT PROJECTS

Arizona Game and Fish Department
Revised January 17, 1997

The Arizona Game and Fish Department (Department) has developed the following guidelines to reduce potential impacts to desert tortoises, and to promote the continued existence of tortoises throughout the state. These guidelines apply to short-term and/or small-scale projects, depending on the number of affected tortoises and specific type of project.

Desert tortoises of the Sonoran population are those occurring south and east of the Colorado River. Tortoises encountered in the open should be moved out of harm's way to adjacent appropriate habitat. If an occupied burrow is determined to be in jeopardy of destruction, the tortoise should be relocated to the nearest appropriate alternate burrow or other appropriate shelter, as determined by a qualified biologist. Tortoises should be moved less than 48 hours in advance of the habitat disturbance so they do not return to the area in the interim. Tortoises should be moved quickly, kept in an upright position at all times and placed in the shade. Separate disposable gloves should be worn for each tortoise handled to avoid potential transfer of disease between tortoises. Tortoises must not be moved if the ambient air temperature exceeds 105 degrees Fahrenheit unless an alternate burrow is available or the tortoise is in imminent danger.

A tortoise may be moved up to two miles, but no further than necessary from its original location. If a release site, or alternate burrow, is unavailable within this distance, and ambient air temperature exceeds 105 degrees fahrenheit, the Department should be contacted to place the tortoise into a Department-regulated desert tortoise adoption program. Tortoises salvaged from projects which result in substantial permanent habitat loss (e.g. housing and highway projects), or those requiring removal during long-term (longer than one week) construction projects, will also be placed in desert tortoise adoption programs. *Managers of projects likely to affect desert tortoises should obtain a scientific collecting permit from the Department to facilitate temporary possession of tortoises.* Likewise, if large numbers of tortoises (>5) are expected to be displaced by a project, the project manager should contact the Department for guidance and/or assistance.

Please keep in mind the following points:

- These guidelines do not apply to the Mohave population of desert tortoises (north and west of the Colorado River). Mohave desert tortoises are specifically protected under the Endangered Species Act, as administered by the U.S. Fish and Wildlife Service.
- These guidelines are subject to revision at the discretion of the Department. We recommend that the Department be contacted during the planning stages of any project that may affect desert tortoises.
- Take, possession, or harassment of wild desert tortoises is prohibited by state law. Unless specifically authorized by the Department, or as noted above, project personnel should avoid disturbing any tortoise.

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APPENDIX C

Conservation Measures

CONSERVATION MEASURES

The following conservation measures are proposed by El Paso for implementation by its contractors and employees during operation and maintenance activities on the Kofa NWR. These measures will help to ensure that impacts to natural and cultural resources located on the Kofa NWR, within and immediately adjacent to the ROW corridor, are avoided and minimized while allowing construction activities to occur in accordance with USDOT standards and timelines. The conservation measures are intended to maximize their protective effect on special-status species and cultural resources. For the purposes of these conservation measures, special-status species include desert bighorn sheep (*Ovis canadensis nelsoni*), Sonoran Desert tortoise (*Gopherus agassizii*), and migratory birds protected by the Migratory Bird Treaty Act. Sonoran Desert tortoise is discussed in greater detail in Appendix A. These conservation measures are arranged into five categories (Maintenance Classes I–V) based on the amount or timing of disturbance necessary for the operation or maintenance activity.

Maintenance Class I: Activities That Do Not Result in New Surface Disturbance

1. Encounters with a special-status species will be reported to a representative of El Paso's Environmental Project Management Group and Kofa NWR. Records of all listed species encountered during project activities will be reported to Kofa NWR. This information will include for each individual: location (narrative, vegetation type, and maps) and dates of observation; general condition and health, including apparent injuries and state of healing; if moved, the location in which it was captured and the location in which it was released.
2. Existing routes of travel to and from the maintenance and inspection sites will be used. Cross-country use of vehicles and equipment will be strictly prohibited.
3. Trash and food items will be contained in closed containers and removed daily to reduce attractiveness to opportunistic predators such as common ravens (*Corvus corax*), coyotes (*Canis latrans*), and feral dogs.
4. Employees will not bring pets to the project site.
5. Firearms are prohibited on the Kofa NWR during operations and maintenance activities.
6. Upon completion of any maintenance action on the ROW corridor, all unused materials and equipment will be removed from the site, including stakes and flagging.
7. Employees working within the geographic range of the Sonoran desert tortoise (MP 690 to MP 711) from March 15 to November 15 will be required to check under their equipment or vehicle before it is moved (desert tortoises commonly seek shade during the hot portions of the day). If desert tortoises are encountered, the vehicle is not to be moved until such animals have voluntarily moved to a safe distance away from the parked vehicle. A person authorized by the USFWS for this task may move desert tortoises.
8. Maintenance activities during evening hours will be minimized and work will not occur at night unless it is an emergency.
9. In accordance with Executive Order 13112, to prevent the spread of noxious weeds to uncontaminated areas, all earth-moving and hauling equipment will be cleaned by steam or power washing at a single site prior to arriving on the ROW corridor. Furthermore, all disturbed soils will either be seeded using only approved species native to Arizona or segregated and returned to the site, or both, after construction activities to preserve the natural seed bank. See Appendix B for approved seed mix.

10. Employees and contractors will exercise caution when commuting to the project area and while traveling the ROW corridor. To minimize the likelihood for vehicle strikes of special-status species and other wildlife, speed limits when commuting to project areas on ROW corridor roads will not exceed 20 miles per hour (mph).

Maintenance Class II: Activities That Result in Minimal Surface Disturbance

In addition to measures described for Class I maintenance actions above, the following conservation measures will also be implemented for Class II maintenance actions:

11. The ROW corridor access road is an unsecured, unimproved dirt road accessible to the general public across the northern portion of the Kofa NWR. When operation and maintenance activities occur within Kofa NWR, signage will be used to warn the general public of the ongoing activities and any open trenches will be flagged, taped, or otherwise identified as a potential hazard to be avoided. Public access will be restricted when operation and maintenance activities are of a nature that could pose a threat to public safety. Turnaround areas will be provided when necessary and located only within the disturbed portion of the ROW corridor. Road closures must be adequately barricaded to prevent visitors from driving off-road to get around construction activity.
12. Because BLM Desert Tortoise Habitat Classification II occurs in the New Waters (Kofa RMP page 18), if any ground disturbance activity is scheduled between March 15 and November 15 between Mile Posts (MPs) 690 and 711, a pre-activity survey for desert tortoise will be conducted by a qualified biologist prior to the onset of ground disturbance. See Appendix A for Special Operating Procedures for Sonoran Desert Tortoise for a complete list of conservation measures to be observed during surface disturbance activities.
13. If any ground disturbance activity is scheduled to take place during the breeding season for migratory birds (approximately March 15 to July 15), El Paso will, prior to initiating construction, evaluate the project site to determine whether there are any large trees, saguaros, or overhead transmission structures in the area that contain active nests. If an active nest is located within 100 m of a repair site, El Paso will assign a qualified biologist to the site during the repair activity to monitor the nest during construction.
14. When feasible, disturbances near bighorn sheep lambing areas (i.e., the eastern portion of the ROW corridor from pipeline MPs 689.5 to 693.5 or near the Livingston Hills, approximately MP 708 to 711) will be scheduled outside the peak lambing period of December 1 to March 31, unless it is an emergency activity (see below).
15. In the event that future pipeline work is required between MPs 690+0750 (690.10) and 690+1650 (690.35). El Paso will avoid impacting cultural resources by placing a temporary fence along the northern margin of the road and limiting all construction to the road and the areas to the south that contain the pipelines. Should El Paso require use of the portion of the ROW that is north of the access road, additional archaeological study would be required, including preparation of a plan of work, which may include mitigation measures, depending on the nature of the proposed construction activities.
16. El Paso will designate a field contact representative (FCR), other than the qualified biologist, who will be responsible for overseeing compliance with protective stipulations for special-status species. The FCR must be on-site during all project activities. The FCR will have authority to halt all activities that are in violation of the stipulations. The FCR will have a copy of all stipulations

when work is being conducted on the site. The FCR may be a project manager, El Paso representative, or a contract biologist.

17. The FCR will have the authority to halt all non-emergency project activity should danger to a special-status species arise. Work will proceed only after hazards to the special-status species are removed, the species is no longer at risk, or the individual has been moved out of harm's way by a qualified biologist.
18. During project activities, vehicle parking and material stockpiles will be located in existing disturbed areas along the pipeline ROW corridor. Pipe segments and trenches will be inspected for the presence of wildlife. Should a pipe segment become occupied by a desert tortoise or other wildlife, a qualified biologist or the FCR will remove it from the pipe segment or trench and carefully release it out of harm's way.
19. The area of disturbance will be confined to the smallest practical area, considering topography, placement of facilities, location of burrows, nesting sites, public health and safety, and other limiting factors. As needed, work area boundaries will be delineated with flagging or other marking to minimize surface disturbance associated with vehicle straying. Intact desert pavement or undisturbed areas within the ROW should be maintained as much as practicable. Access roads should not be widened. Special habitat features, such as burrows identified by the qualified biologist, will be avoided to the extent possible. To the extent possible, previously disturbed areas within the project sites will be used for stockpiling excavated materials, storing equipment, digging slurry and burrow pits, stationing trailers, parking vehicles, and any other surface-disturbing activity.
20. All activities will be restricted to the existing ROW corridor. If unforeseen circumstances require expansion of this width for temporary workspace during construction activities, the potential expanded work areas will be surveyed for special-status species prior to use of the area. All appropriate conservation measures will be implemented within the expanded work areas. Unless during an emergency situation, work outside the original ROW will proceed only after receiving written approval from the Refuge Manager of the Kofa NWR that describes the exact location of the expansion as discussed in Section 2.4.
21. During excavation of trenches or holes, earthen ramps will be provided to facilitate the escape of any wildlife species that may inadvertently have become entrapped. A final inspection of the open trench segment will also be made immediately before backfilling. Trenches must meet OSHA safety requirements before personnel enter open trenches to remove wildlife.
22. Where necessary, El Paso will restore disturbed areas in a manner that will assist in the re-establishment of vegetation within the disturbed ROW corridor. Restoration activities in the ROW corridor will take place after all ground-disturbing activities have been completed. At a minimum, topsoil will be segregated during trenching activities and set aside. After pipe repair or maintenance activity, the trench will be backfilled and the segregated topsoil placed in the upper portion of the trench and returned to preconstruction contours and elevations. The "double ditch technique" of piling the top 6 to 8 inches of soil farthest away from the trench and then piling the subsoil closer to the trench will be used. After work is completed on the excavated pipe, the subsoil pile closest to the trench will be backfilled first, followed by the segregated topsoil pile farthest from the trench. This technique helps to preserve the native seed bank present in the topsoil. Refer to Appendix B for the Revegetation Plan.
23. If wildlife, including special-status species, are killed or injured by El Paso personnel or its contractors, El Paso will endeavor to place the remains with an educational or research institution holding the appropriate state and federal permits, per permit instructions. If the animal is a desert tortoise, the USFWS may consider marking the carcass in a manner that would not be toxic to

other wildlife to ensure that it would not be re-recorded in the future. Arrangements for proper disposition of potential museum specimens to the appropriate institution will be made by the USFWS prior to implementation of the action. The Kofa NWR should be contacted regarding any animals injured by project activities or for final disposition of the animals.

24. Fire hazards should be minimized. Caution must be used when parking vehicles with catalytic converters or when welding or performing any other spark-producing activities. Fire suppression materials and personnel should be on hand when performing spark-producing activities from May 1-October 1. If a fire spreads more than 100' from the road, contact Kofa NWR immediately but do not continue fire-suppression attempts in wilderness unless authorized by refuge personnel.

Maintenance Class III: Activities That Result in Major Surface Disturbance

In addition to measures described for Class I and II maintenance actions above, the following conservation measures will also be implemented for Class III maintenance actions:

25. The width of the activity corridor for any major pipeline excavation or aboveground construction project will be determined prior to the onset of ground-disturbing activities. Consistent with worker safety, work areas will be restricted to the existing permanent easement.
26. Authorized biologists will be present during any major ground-disturbing project in Sonoran desert tortoise habitat (MP 690 to MP 711) in order to assist with the implementation of on-site conservation measures for the desert tortoise and to monitor compliance.

Maintenance Class IV: Activities That May Extend Outside the Pipeline ROW Corridor

27. In addition to measures described for Class I, II, and III maintenance actions above, the following conservation measures will also be implemented for Class IV maintenance actions:
28. For maintenance activities that may extend outside of the pipeline ROW corridor, all or in part, a separate Special Use Permit will be required from the USFWS.

Maintenance Class V: Unscheduled Emergency Repairs

29. For emergency situations involving a pipeline leak or spill or any other immediate safety hazard, El Paso will notify the Kofa NWR office within 48 hours of the pending emergency repair.
30. For emergencies related to the PIP Immediate Remediation digs that must be repaired within 30 days according to USDOT regulations, El Paso will notify the Kofa NWR within 5 days of the pending emergency repair.
31. If the emergency repair needs to take place within the bighorn sheep lambing season (December 1 to March 31) and the location is within MPs 689.5 to 693.5 or 708 to 711, El Paso will make every effort to minimize noise disturbances and time spent within the ROW corridor at those locations.
32. If the emergency repair needs to take place during the breeding season for migratory birds (March 15 to July 15) El Paso will, prior to initiating construction, evaluate large trees, saguaros, or overhead transmission structures in the repair site vicinity to determine whether there are any active nests. If an active nest is located within 100 m of an emergency repair site, El Paso will

assign a qualified biologist to the site during the repair activity to monitor the nest during construction.

SPECIAL OPERATING PROCEDURES FOR SONORAN DESERT TORTOISE

There are two populations of desert tortoise in Arizona; the Mojave population occurs north and west of the Colorado River and the Sonoran population is found east and south of the Colorado River (AGFD 2001). The Mohave population is listed as a threatened species under the Endangered Species Act (ESA). The Sonoran population is listed as a Wildlife Species of Concern by the AGFD and is not afforded protection under the ESA. The Sonoran population of the desert tortoise builds or uses existing burrows to escape from temperature extremes. Tortoises may also squeeze into rock crevices or caliche caves in the sides of stream banks. Shelter sites are rarely found in shallow soils. Adults usually hibernate during the winter but may occasionally forage during warm winter spells. Activity picks up in spring when desert tortoises begin consuming their vegetarian diet of annual and perennial grasses, forbs, and succulents. The Sonoran population of the desert tortoise is found primarily on rocky slopes and bajadas of Mojave and Sonoran Desertscrub biotic communities (AGFD 2001).

Within desert tortoise habitat (i.e., MP 690 to MP 711) on the ROW corridor across Kofa NWR, the following operating procedures will be implemented:

1. In areas that are within or are similar to BLM designated desert tortoise Category II habitat, from March 15 through November 15, a monitor must be on site.
2. The proponent will develop and implement a worker education program that addresses i) the occurrence and distribution of the desert tortoise within the construction area; ii) measures being implemented to protect the tortoise and its habitat in the construction area; and iii) specific protocols to observe should desert tortoises be encountered in the field.
3. The Environmental Inspector, Chief Inspector, or biological monitor will attend a pre-construction meeting with construction contractor to go over the committed conservation and monitoring measures and to establish lines of communication for daily coordination and reporting.
4. Between March 15 and November 15, a walking clearance of working areas (around equipment, etc.) must be performed by the biologist or Environmental Monitor or Chief Inspector every morning to check for tortoises.
5. There will be no construction prior to 30 minutes before sunrise or after 30 minutes after sunset to ensure adequate visibility to protect tortoises, burrows, and their habitat unless an emergency situation arises.
6. Burrows within the ROW corridor that will be destroyed or disturbed by construction activities such as road maintenance or trenching must be cleared of tortoises daily, prior to any disturbance.
7. A pre-construction desert tortoise survey by a biologist trained to conduct tortoise surveys is required in all Class II tortoise habitat (MP 690 to MP 711) within 45 days prior to construction to identify burrows or other high-use tortoise areas. Surveys will be required in all areas of new disturbance, which includes the ROW, existing access roads, equipment storage areas, etc. If additional disturbance is anticipated in areas outside of the project corridor as the project progresses, these will be surveyed as well.
8. Tortoise whose burrows would be destroyed during project construction and those found at the surface must be relocated by a qualified desert tortoise biologist 500 feet to ¼ mile away from the

construction area. The method of relocation will be determined by tortoise activity levels and ambient ground disturbance. The tortoise will be placed by a qualified desert tortoise biologist in a natural or artificially constructed burrow.

9. If a desert tortoise cannot be relocated within ¼ mile from where it was found, then that tortoise must be salvaged in accordance with the Arizona Game and Fish Department salvage techniques for desert tortoise.
10. All locations of desert tortoise or their sign will be mapped on a 7.5-minute topographic map with Township, Range, and Section noted, date, and observer's name. Locations will be sent to the FCR.
11. To prevent mortality, injury, and harassment of desert tortoise and damage to their burrow, no dogs will be permitted in any project construction area unless confined or leashed.
12. Dust control watering of the ROW corridor within desert tortoise habitat will be conducted in a manner that will not result in development of ponds, which could attract desert tortoise. If ponding is unavoidable, the ponded area and a 5-m-wide buffer area around the pond will be flagged or otherwise marked to prevent entry by vehicles. Alternatively, ponded areas will be checked regularly by biological monitors, and desert tortoises found in pond vicinities will be safely removed.
13. All construction vehicles and equipment will be restricted to the ROW corridor to limit desert tortoise habitat degradation. If necessary, ROW corridor limits will be flagged to alert work crews.
14. The proponent will limit speed of all vehicles along the ROW and access roads to 20 mph in desert tortoise habitat. Construction and maintenance employees will also be advised that care should be exercised when commuting to and from the project area to reduce road mortality.
15. Surface disturbing activities will be minimized along the entire length of the ROW corridor. Existing access roads will be used for travel and equipment storage. Access roads scheduled for upgrading in desert tortoise habitat should not be widened, if possible, nor should berms be disturbed during grading.
16. All disturbed areas within the ROW corridor on Kofa NWR not seeded after construction will be restored by appropriate techniques, including re-contouring, topsoil replacement, and revegetation. Seed mixtures will include only native species that have the greatest success potential.

LITERATURE CITED:

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RESTORATION/REVEGETATION PLAN

EL PASO ROW WITHIN KOFA NATIONAL WILDLIFE REFUGE LA PAZ COUNTY, ARIZONA

El Paso will restore, using appropriate techniques, including re-contouring, and topsoil replacement, all areas where ground disturbance has occurred as a result of construction activities. The use of restoration techniques such as reseeding and/or revegetation will be optional, however, and will be completed only in areas previously identified for such treatment by El Paso and Kofa NWR prior to the initiation of ground disturbance. Seed mixtures will include only native species that have the greatest potential for success.

A. Seedbed Preparation:

1. Seedbed should be firm and free of competing vegetation.
2. If rainfall occurs prior to seeding, break the surface crust by using a drag, disc or some other type of approved method.

B. Method of Application

1. Drilling is the preferred method and should be used whenever possible. Drills must be equipped with hoppers that can properly meter out the seed. Seeds that are fluffy will require special agitators or bulking agents (such as rice hulls or cracked corn) to insure proper seed disbursement. The drill should also have depth bands, or some other positive type of control, to prevent seeding too deeply. The drill should be quipped with packer wheels or the area should be rolled immediately after seeding. Firm soil seed contact is essential to insure successful planting.
2. Drill should be capable of planting seed at a depth range between ½ to 1 inch, for most range grasses.
3. Mulching will be optional depending on site specific conditions to maximize reseeding success and to minimize aesthetic impacts. Mulching can be straw or weed free hay. The mulch material shall be evenly applied and anchored to the soil by crimping with an agricultural instrument. Apply at 2 tons/acre.

C. Time of Application

1. Late July or early August following ground disturbance.

D.Suggested Stipulations for all Surface Disturbing Activities to prevent the spread of Noxious Weeds:

1. 1. Construction equipment should be inspected and cleaned prior to coming into the work site. Especially important on vehicles from out of state or coming from a weed infested area.
2. 2. If fill dirt or gravel will be required, the source needs to be noxious weed free.
3. 3. Seed Mix (certified noxious weed seed free)

Seed Mix:	**PLS Weight**
Desert marigold (*Baileya multiradiata*)	1lb/ac
California poppy (*Eschscholzia californica*)	1lb/ac
White bursage (*Ambrosia dumosa*)	4lbs/ac
White-thorn acacia (*Acacia constricta*)	4lbs/ac
Desert indian wheat (*Plantago ovata*)	2lbs/ac
Brittlebush (*Encelia farinosa*)	2lbs/ac
Needle grama (*Bouteloua aristidoides*)	2lbs/ac
Desert globemallow (*Sphaeralcea ambigua*)	1lb/ac
	17lbs/ac

- Apply appropriate seed mix at a rate of **17 lbs P.L.S/acre**.

Seed Source
Granite Seed
1697 W. 2100 North
Lehi, Utah 84043
Bill Agnew, 801-768-4422

Potential Seeding Contractor
Sunbelt Turf & Reclamation
P.O. Box 1480
Higley, Arizona 85326
Ron Mead: (480) 734-0827
Ronmead10@msn.com

APPENDIX D

Compatibility Determination

Draft Compatibility Determination
Kofa National Wildlife Refuge

El Paso Natural Gas Corp. - Proposed Cathodic Protection Station 1585

Use

The installation, operation and maintenance of a proposed El Paso Natural Gas Company (EPNG) cathodic protection station (CPS) to be located in a new right-of-way (ROW) adjacent to an existing natural gas pipeline ROW corridor. The project is known as Cathodic Protection Station No. 1585.

Refuge Name

Kofa National Wildlife Refuge
Yuma and La Paz Counties, Arizona

Establishing and Acquisition Authorities

The Kofa National Wildlife Refuge (Refuge) is a unit of the National Wildlife Refuge System (System) and is administered by the United States Fish and Wildlife Service (Service). The Refuge was established in 1939 by Executive Order 8039. The conservation of desert bighorn sheep (*Ovis canadensis mexicana*) was the driving factor in the establishment of the Refuge.

Refuge Purpose

The Refuge was established in 1939 by Executive Order 8039 which described the legal purpose being "for the conservation and development of natural wildlife resources, and for the protection of public grazing lands and natural forage resources."

With the passage of the Arizona Desert Wilderness Act of 1990, most of the Refuge became designated wilderness. That act and the Wilderness Act of 1964 provide general legal guidance for wilderness portions of the Refuge. About 510,000 acres of the Refuge's 665,400 acres are designated wilderness. For wilderness areas within the System, the purposes of the Wilderness Act are considered to be "within and supplemental" to the purposes for the specific Refuge, i.e., the wilderness purposes are additional purposes for the Refuge and must be considered within the legal context of the applicable wilderness statutes. The preservation of wilderness values is an important mandate in the management of the Refuge.

National Wildlife Refuge System Mission

The mission of the System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Detailed Description of Use and Justification

This compatibility determination addresses the installation, operation and maintenance of a proposed EPNG CPS to be located in a new ROW adjacent to the existing natural gas pipeline ROW corridor at the north end of the Refuge. The proposed project area is located on the Refuge in the SE¼, NE¼, Section 15, Township 2 North, Range 18 West, Gila and Salt River Meridian, La Paz County, Arizona.

The purpose of the project is to support the infrastructure necessary for CPS No. 1585, as described in EPNG's Plan of Development (Appendix A of EA), in order to provide corrosion protection for three existing high pressure natural gas pipelines in accordance with U. S. Department of Transportation (USDOT) regulations. This cathodic protection of EPNG Lines 1100, 1103, and 1110 is needed to minimize and prevent corrosion of the pipelines, which can cause pipeline safety issues, including the loss of pressure within the lines, increased maintenance visits, and potentially an interruption in service to the communities served by the pipelines. This CPS is needed to maintain safe, reliable, and cost-effective natural gas transportation to the communities served by the pipelines as well as to conform to the Pipeline Safety Improvement Act of 2006 and USDOT regulations.

Natural gas pipelines are subject to internal and external corrosion, which can result in loss of pressure integrity or pipeline failure. Thus, EPNG proposes to construct a new CPS (No. 1585) ancillary to EPNG's existing pipelines (Line Nos. 1100, 1103, and 1110) to help prevent and minimize corrosion on these three pipelines (corrosion can lead to pipeline failures or increased pipeline repair projects). The ROW being requested for CPS No. 1585 consists of an approximately 844-foot-long by 30-foot-wide permanent ROW for a new ground bed; a 144-foot-long by 30-foot-wide permanent ROW for the cable installation; and two 750-foot-long by 35-foot-wide temporary construction workspace easements on either side of the requested permanent ROW (total permanent and temporary construction workspace width is 100 feet). The area of permanent ROW is 0.59 acre, and the temporary construction workspace is 1.2 acres.

Details regarding the project and associated facilities can be found in the accompanying Environmental Assessment.

Availability of Resources

Preparation of environmental compliance documents, issuance of the permit, and subsequent use of the area described above, has and will require the expenditure of Refuge resources, primarily staff time. However, EPNG has contracted with an environmental consulting agency to offset some of these costs, including the preparation of an EA, cultural review, and biological evaluation. Of course, EPNG will also be responsible for the planning, construction and maintenance of all improvements related to the project. Payments and reimbursements will be guided by Service regulations and policies pertaining to ROWs (50 CFR 29.21 & 29.22) and (340 FW 3).

Anticipated Impacts of the Use

The details of the anticipated environmental impacts can be found in Chapter 3 of the EA. In addition, a Biological Evaluation Report was prepared by SWCA Environmental Consultants on behalf of EPNG. The Service used this report to further evaluate the impacts of the proposed project on listed species and other species of concern. The reports prepared by SWCA pertaining to the specific project, together with information previously available to Service officials, provided the basis for analyzing the impacts of the proposed use as it applies to Compatibility.

Generally speaking the project will have direct impacts on less than two acres and will not have significant or lasting impacts outside the project area. The site is located in the Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community. Vegetation in the project area is dominated by creosote bush. Other plants found the area include burrobush (*Ambrosia dumosa*), foothill paloverde (*Parkinsonia microphylla*), desert ironwood (*Olneya tesota*), saguaro (*Carnegiea gigantea*), Wiggins' cholla (*Cylindropuntia echinocarpa*), spineflower (*Chorizanthe rigida*), white ratany (*Krameria parvifolia*), plantain (*Plantago* sp.), and brittlebush (*Encelia farinosa*).

The proposed action would result in impacts to vegetation in a relatively small area adjacent to an existing pipeline ROW corridor. No blading would occur, and impacts would be limited to the crushing of grasses, forbs, and small shrubs by vehicles, equipment, and soil piles. Construction equipment will access the project area from existing roads, so no other impacts are anticipated. It is anticipated that most vegetation will recover following project completion. We are also requiring restoration efforts that include the use of a native species seed mix to help facilitate revegetation of the disturbed areas.

The project area provides some habitat for a variety of common wildlife species found in the area. Mammals likely present in the area include coyote (*Canis latrans*), black-tailed jackrabbit (*Lepus californicus*), desert cottontail rabbit (*Sylvilagus audubonii*), Merriam's kangaroo rat (*Dipodomys merriami*), round-tailed ground squirrel (*Spermophilus tereticaudus*), desert pocket mouse (*Perognathus penicillatus*), and Arizona pocket mouse (*Perognathus amplus*). Birds in the area include turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), Gambel's quail (*Callipepla gambelii*), white-winged dove (*Zenaida asiatica*), mourning dove (*Zenaida macroura*), greater roadrunner (*Geococcyx californianus*), lesser nighthawk (*Chordeiles acutipennis*), and common raven (*Corvus corax*). Reptiles in the area include zebra-tailed lizard (*Callisaurus draconoides*), desert spiny lizard (*Sceloporus magister*), western (or tiger) whiptail (*Cnemidophorus tigris*), and Western diamondback rattlesnake (*Crotalus atrox*).

Because construction would disturb approximately 1.79 acres of vegetation and soils, there will likely be displacement of some small mammals, birds, and reptiles. The proposed action would have no adverse impacts on desert bighorn sheep or bighorn sheep populations, nor would it be expected to contribute to the future listing of desert bighorn sheep as threatened or endangered because of the small area of impact, short duration of construction activities, and lack of suitable bighorn sheep habitat in the immediate project area.

The proposed action would also have no effect on any of the eight ESA listed species with the potential to occur in La Paz County as they are not expected to occur in the project area. The project area does not contain the habitats known to support the species, or it is located outside of the geographic or elevational range of the species. Also, there would be no adverse modification of any proposed or designated Critical Habitat because none occurs in the project area.

Regarding soils, clearing vegetation and the use of heavy equipment can cause compaction, thereby impacting the soils' ability to absorb water. The majority of the construction, including drilling and trenching, would take place in the new permanent ROW. In the temporary workspace, impacts would include compaction from the staging of equipment and the temporary storage of soil piles. Soil disturbances would total 1.79 acres of permanent and temporary ROW.

No construction or routine maintenance activities would be performed during periods when the soil is too wet to adequately support construction equipment. No blading would be conducted during construction in the temporary workspace, further reducing soil disturbances. Soils would be restored to preconstruction contours and elevations and erosion control measures would be implemented, including revegetation with a native species seed mix. Soil impacts are therefore anticipated to be insignificant.

In summary, there would be little lasting effects outside the immediate project site, and few impacts other than temporary disturbance occurring during construction. The project is needed to support existing pipelines and will not lead to future additional impacts (see the cumulative impacts analysis in Section 3.2 of EA). We therefore conclude that the use, as proposed, will not materially interfere with, or detract from, the Service's ability to meet the purposes of Kofa National Wildlife Refuge.

Public Review and Comment

The National Wildlife Refuge System Improvement Act of 1997 requires the Refuge Manager to provide an opportunity for public review and comment for all compatibility determinations. The purpose is to offer the public the opportunity to provide relevant information and express their view on whether or not a use is compatible. The Refuge Manager must consider all information provided during the public review and comment period. The Refuge Manager is not required to respond to opinions, assertions, or unsubstantiated claims. Rather, he or she is looking for substantive comments that reveal new information, missing information, or illuminate a flawed analysis that would substantially change conclusions. A minimum 14-day comment period is mandated by law.

This draft Compatibility Determination is being made available for 30 days and is attached to the draft EA for convenience and efficiency. The public is encouraged to provide comments on both the draft EA and the draft Compatibility Determination concurrently.

Determination

___ Use is Not Compatible

_X_ Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility

In May of 2008, the Service and EPNG cooperatively developed a series of conservation measures to minimize and mitigate the impacts resulting from EPNG's activities pertaining to existing ROWs and facilities. Those conservation measures would also be adopted for this new ROW request. They can be found in their entirety in Appendix C of the EA.

NEPA Compliance for Refuge Use Decision

A draft Environmental Assessment has been prepared for this project as part of EPNG's pending request for the associated ROW needed for implementation.

____ Categorical Exclusion without Environmental Action Memorandum

____ Categorical Exclusion and Environmental Action Memorandum

_X_ Environmental Assessment and Finding of No Significant Impact

____ Environmental Impact Statement and Record of Decision

Signature: Refuge Manager _____
(Signature and Date)

Concurrence: Refuge Supervisor _____
(Signature and Date)

Concurrence: Regional Chief _____
(Signature and Date)

Mandatory 10-year Re-Evaluation Date: November, 2020

Attachment: Draft Environmental Assessment